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Good meadows, good farmers?

An assessment of the cultural sustainability of an Irish pilot results-oriented agri-environmental scheme

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Go raibh míle maith agaibh go léir.

Abstract

Agri-environmental schemes [AESs], which pay farmers to manage their land more environmentally sustainably, are the European Union's primary policy instrument for addressing rural environmental problems. The majority of AESs in Europe are action-oriented (meaning they pay farmers to adhere to specified management prescriptions). However, a new approach, the results-oriented scheme (which pays farmers based on the delivery of specified environmental outcome(s)) has emerged as an alternative model. It has been postulated by certain rural sociologists that the results-oriented approach is the more 'culturally sustainable' of the two – meaning it is more likely to cause agri-environmental management to become embedded in farming cultures. This is because (hypothetically) it allows agriculturalists to demonstrate 'good farmer' status to their peers in the delivery of agri-environmental goods. However, there is insufficient data available to support or refute this claim. To address this research gap, a case study was conducted on an Irish pilot results-oriented scheme. Using Bourdieusian theories of capital to conceptualise the study, and a mixed methods approach to explore the opinions of participant farmers, the cultural sustainability of the scheme was assessed. The major finding was that while the scheme was successful in enhancing the ecological knowledge of participants, it offered little opportunity for participants to demonstrate their own knowledge and skills in the delivery of agri-environmental goods. Hence, the study does not support the postulation that results-oriented schemes are inherently culturally sustainable. It is recommended that to promote the cultural sustainability of results-oriented schemes, officials should emphasise the role of the farmer as the innovative land manager and avoid becoming 'environmental managers by proxy'. The author would suggest that while the results-oriented approach has potential to bring about durable pro-environmental behavioural change among farmers, it is not appropriate in all contexts. Further research – particularly that which is longitudinal and has a larger sample size than this study – is warranted.

Keywords: Results-oriented agri-environmental schemes, policy evaluation, cultural sustainability, conservation, Ireland

Executive Summary

Problem Definition

Intensification of global agricultural practices has contributed to a host of environmental problems, including climate change and biodiversity loss. Since the early '90s, EU Member States have sought to address these problems with a voluntary market-based policy instrument, the agri-environmental scheme [AES]. AESs provide economic incentives to farmers to manage their land in a manner that is more environmentally sustainable. Research indicates that in spite of the allocation of substantial public funds, AESs are failing to bring about durable pro-environmental attitudinal or behavioural change among participant farmers.

The majority of AESs have been 'action-oriented' – meaning payments are made to participants based on compliance with set management prescriptions. More recently, an alternative model, the 'results-oriented' AES, has emerged. Its payments are based on the delivery of specified environmental results, as evidenced by environmental indicators (e.g. the presence/absence of a target species). In simple terms, results-oriented schemes are concerned with the ends and not the means.

Following Bourdieusian theories of capital, certain rural sociologists (Burton & Paragahawewa, 2011) have postulated that results-oriented AESs are inherently more 'culturally sustainable' than action-oriented AESs – meaning they are more likely to cause pro-environmental practice to become embedded in farming cultures.

In order to understand their reasoning, a brief foray into the realm of social theory is required. According to Bourdieusian theory, there are two forms of non-economic capital: social and cultural. Social capital refers to the benefits possessed by an individual by virtue of their social network. A farmer who is well-connected in his farming community, for example, might possess social capital in the form of access to group resources (machinery and labour of fellow-farmers). Cultural capital, on the other hand, refers to knowledge, skills, mentalities and objects indicative thereof. It exists in a number of forms. 'Embodied cultural capital' refers to knowledge, skills and mentalities in the mind of an individual – the skillset possessed by a farmer, for example. 'Objectified cultural capital' refers to physical effects which are indicative of the embodied cultural capital of their owner – a tidy, productive field, for example.

Research suggests that the demonstration of cultural capital is an important aspect of social life in farming cultures. Individuals who are regarded as 'good farmers' among their peers – by virtue of their demonstrated embodied and objectified cultural capital – possess 'symbolic' cultural capital (that which conveys prestige). According to Bourdieusian theory, symbolic capital can be converted from one form to another. Thus, the symbolic cultural capital of the 'good farmer' may be converted to social capital within the farming community.

Based on this conceptualisation of farming culture, Burton & Paragahawewa (2011) have postulated that by dictating management prescriptions to farmers, action-oriented AESs prevent them from demonstrating their own knowledge and skills (embodied cultural capital) in the delivery of agri-environmental goods. Land managed extensively according to scheme's prescriptions may become visibly more 'natural' and less productive, causing the participant's reputation as a 'good farmer' and their social capital among their peers to decline[1]. In this

[1] Research has repeatedly shown that tidy, ordered, productive farming is considered to be 'good farming' and has high cultural value among agriculturalists. Symbols of 'good farming' might include weed-free fields with parallel, equidistant crop rows.

hypothetical scenario, the only incentive for the farmer to implement agri-environmental management is economic. Hence, theoretically, when payments cease, agri-environmental management follows suit.

The authors have gone on to posit that by allowing them to use their own knowledge and skills to deliver stipulated environmental results, results-oriented AESs provide farmers with an opportunity to demonstrate their embodied cultural capital to their farming peers. Evidence of successful delivery of environmental results on the land of a participating farmer (objectified cultural capital) becomes 'symbolic' in that it is indicative of the farmer's prestige in the delivery of agri-environmental goods. Possession of this symbolic capital allows the farmer to transform his cultural capital into social capital among his farming peer group, granting him enhanced access to group resources. In this hypothetical scenario, agri-environmental management is incentivised by social and cultural in addition to economic capital. Hence, there is a greater likelihood that agri-environmental management will continue to be implemented even when payments cease. Thus, through results-oriented AESs, agri-environmental management may become embedded in farming cultures in the long-term.

However, since such schemes are few in number and understudied, there is insufficient data available to support or refute these assertions.

Research Questions & Methodology

This research sought to address this data gap by assessing the cultural sustainability of an Irish pilot results-oriented AES. The research questions were as follows:

How culturally sustainable was the scheme?

a. *To what degree were the forms of social and cultural capital accumulated by participants?*
b. *To what degree did participants demonstrate their embodied cultural capital?*
c. *To what degree did the scheme bring about attitudinal change among its participants?*
d. *To what degree do participants intend to continue farming as they did under the scheme without payment?*

In order to address these questions, fourteen of the seventeen farmers who participated in two measures of the Shannon Callows RBAPS pilot scheme in the midlands of Ireland were surveyed over the phone. More in-depth face-to-face semi-structured interviews were then conducted with five survey respondents.

Major Findings

- Participants' gained embodied cultural capital (botanical knowledge) and social capital (friendships and acquaintances with farmers and scheme officials) through participating. Some participants' perceptions of the meadow flora was transformed – what they once dismissed as 'weeds' or 'dirt' they now understood to be 'wildflowers'.
- Most participants did not observe environmental changes on the land that themselves and their peers had entered into the scheme over the duration of their participation. Those who did observe improvements were pleased and impressed by what they saw.
- The account of one interviewee, who reported seeing "more flowers" on his callows, added weight to previous research that has pointed to the psychological significance for farmers to see their environmental efforts come to fruition (as objectified cultural capital) – as he put it "Seeing is believing".

Anything in contravention with this – weed-infested fields with low yields, for instance – can result in a loss of social capital for a farmer.

- Critically, the scheme provided little opportunity for its participants to demonstrate their own embodied cultural capital in the delivery of agri-environmental goods. No respondent felt they had relied on their own knowledge to decide how to manage their meadows. It would appear that land management guidance and innovative management ideas came from scheme officials themselves.
- While most respondents felt that their attitudes towards conservation and farming had changed through participating in the scheme, opinions expressed by interviewees did not support the idea that fundamental attitudinal changes had occurred.
- The scheme prompted little departure from business-as-usual for participants. Half reported making no changes in practice at all under the scheme. Of the other half, only four individuals expressed an intention to continue to manage the land as they had under the scheme without payment.
- Opinions of interviewees pointed to a number of acceptability constraints that may have limited the scheme's cultural sustainability: (1) high perceived environmental risk, (2) distrust of authorities, and (3) impracticality of implementing measures.

Contrary to the assertions of Burton & Paragahawewa (2011), it would not appear that results-oriented schemes are inherently culturally sustainable since they do not invariably allow their participants to demonstrate their embodied cultural capital in the delivery of agri-environmental goods. The author would maintain that results-oriented schemes have the *potential* to be culturally sustainable but much depends on design and implementation.

Key Recommendations for Policy-makers & Scheme Administrators

In light of the findings, a number of recommendations have been made that may contribute to the development of more culturally sustainable AESs:

- *The farmer as the innovator:* Officials of results-oriented AESs should emphasise the role of the farmer as the innovative land manager, allow participants the freedom to make their own decisions regarding land management and avoid the situation in which scheme officials become 'environmental managers by proxy'.
- *Facilitate, don't dictate:* The top-down prescriptive AES model disregards the valuable context-specific cultural capital of farmers and reinforces the oppositional paradigm between agricultural and environmental professionals. Scheme officials should seek to engender positive, respectful relations with scheme participants in which their embodied cultural capital is embraced.
- *Seeing is believing:* If participant farmers are to see the fruits of their environmental efforts (objectified cultural capital), AESs must (i) prompt meaningful changes in management practices, and (ii) allow sufficient time for observable changes to manifest. 'Enhancing' schemes are preferable to 'maintaining' schemes in this regard.
- *A seat at the table:* Involve farmer stakeholders in decision-making processes of AES development. This would help to iron out acceptability issues before they arise, facilitate more culturally-informed scheme design and allow farmers to demonstrate their embodied cultural capital from the outset.

Given the novel nature of this research, and the limitations of this case study (particularly its small sample size), further research is warranted. Longitudinal and comparative studies are especially needed.

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Abbreviations

'AEOS' – Agri-Environment Options Scheme (AES of the Republic of Ireland)
'AES(s)' – Agri-environmental scheme(s)
'BW' – Breeding waders (option of Shannon Callows RBAPS scheme)
'CAP' – Common Agricultural Policy (of the EU)
'CFPS' – Corncrake Farm Plan Scheme (AES of Irish NPWS and BirdWatch Ireland)
'CSS' – Countryside Stewardship Scheme (AES of the UK)
'DAFM' – Department of Agriculture, Fisheries and the Marine (of the government of the Republic of Ireland)
'ECA' – European Court of Auditors
'EFTA' – European Free Trade Association
'EC' – European Commission (of the EU)
'EIP-AGRI' – European Innovation Partnership for Agricultural Productivity and Sustainability (of the EU)
'ESA' – Environmentally Sensitive Area (designation of UK AES)
'EU' – European Union
'GLAS' – Green Low-carbon Agri-environment Scheme (AES of the Republic of Ireland)
'GNB' – Ground-nesting birds (option of Shannon Callows RBAPS scheme)
'IPCC' – Intergovernmental Panel on Climate Change
'NPWS' – National Parks and Wildlife Service (of the Republic of Ireland)
'REPS' – Rural Environment Protection Scheme (AES of the Republic of Ireland)
'RBAPS' – Results Based Agri-environmental Payment Schemes
'SAC(s)' – Special Area(s) of Conservation (desination of EU Habitats Directive)
'SFM' – Species-rich flood meadow (option of Shannon Callows RBAPS scheme)
'SPA(s)' – Special Protection Area(s) (designation of EU Birds Directive)
'UK' – United Kingdom

1 Introduction

1.1 Background

Intensification of agricultural practices over the latter half of the 20th century has led to a host of environmental problems. In Europe, the productivist ethos of the post-war Common Agricultural Policy [CAP] gave rise to a concerted industrialisation of previously extensive agricultural systems. Increased agrochemical inputs, hedgerow and field margin removal, and overstocking of livestock, for example (Batáry et al., 2015) have taken a toll on the ecological integrity of European rural landscapes (e.g. Donald et al., 2001; Benton et al., 2002; Benton et al., 2003; Schmitzberger et al., 2005; Voříšek et al. 2010). Major impacts include global warming (IPCC, 2014), biodiversity loss (Zechmeister et al., 2003; Schmitzberger et al., 2005; Chaudhary & Kastner, 2016), pollution of surface and groundwater, and deterioration of soil quality (Stoate et al., 2001, 2009; Verheijen et al., 2009).

In economic terms, at the crux of this problem is a market failure (understood as the failure of "price-market institutions to sustain desirable activities or to stop indesirable activities" (Bator, 1958, p.351). The primary economic outputs of agricultural landscapes are food and fibers (Latacz-Lohmann & Hodge, 2003). However, since the environmental qualities of agricultural landscapes (hereafter referred to as 'agri-environmental goods') are non-rivalrous (meaning one individual's consumption of them does not diminish the ability of another to consume them) and non-excludable (meaning it is impossible to exclude an individual from consuming them) (Hudson & Jones, 2005, as read in Morrell, 2009), their values have been excluded from private markets (Hasund, 2003; MEA, 2005).

The European Union [EU] has sought to address this market failure by internalising the negative externalities (i.e. environmental impacts) which arise from intensive agricultural practices with a market-based mechanism – the agri-environmental scheme [AES]. AESs are "incentive-based instruments [...] that provide payments to farmers for voluntary environmental commitments [i.e. those which go beyond mandatory requirements[2]] related to preserving and enhancing the environment and maintaining the cultural landscape" (Uthes & Matzdorf, 2013, p.251). At present, AESs are the major policy instrument employed by the EU to address environmental issues in rural landscapes. Given that roughly 40% of the total land area of the EU-28 is utilised agricultural land (Eurostat, 2013) AESs may be considered a very important policy instrument of the EU's environmental policy framework.

AESs have been a feature of that framework for over three decades. They were first incorporated in 1985, as an optional instrument for Member States, external to the CAP (Regulation 797/85/EEC). As part of the 1992 MacSharry Reforms, AESs were brought under the domain of the CAP as mandatory "accompanying measures" to Member States' national agricultural policies (Regulation 2078/92/EC). AESs are now addressed under the second pillar of the CAP - the Rural Development Plans (Regulation 1698/2005/EC). Generally speaking, the EU provides roughly half of the budget for a particular AES, with individual Member States funding the remainder (Beckmann et al., 2009). AES payments to farmers are intended to be non-trade distorting and calculated on the basis of income foregone (Regulation 1783/2003/EC; Hasund & Johansson, 2016). Farmers who opt to participate in a particular

[2] Mandatory requirements include compliance with national environmental regulations and the 'cross compliance' requirements to which EU farmers must adhere in order to receive their basic subsidy payments under the CAP (van Haaren & Bathke, 2008).

AES enter into contracts with the relevant authority (often the Department of Agriculture of the state in question) that typically last for 5 – 7 years, and payments are made to participants on an annual basis on the condition of compliance with the contract in question (de Krom, 2017). Although some guidelines are set at the EU level, in accordance with the principle of subsidiarity (European Commission, 1992), specific decisions regarding AESs (environmental objectives, design, degree of decentralisation and who participates in decision-making among other aspects) are left up to the discretion of individual Member States (Beckmann et al., 2009; ECA, 2011). Thus, a wide variety of AES styles may be found across the EU and European Free Trade Association [EFTA] states.

In terms of how payments are made to participating farmers, there are two broad categories of AESs: 'action-oriented'[3] and 'results-oriented'[4]. As participants of action-oriented schemes, farmers are paid for "the delivery of land management practices" (Burton & Schwarz, 2013, p. 629). Authorities (at national or regional level) choose these land management practices (or 'actions') that farmers should or should not implement based on the assumption that implementation will deliver the desired environmental outcomes. Annual payments are made to farmers on the condition of their compliance with these stipulated land management prescriptions. In Ireland's first AES, the Rural Environment Protection Scheme, for example, participants were remunerated for the implementation of management practices such as outwintering of livestock, and were prohibited from practices such as spraying herbicide within 1.5m of a watercourse (Emerson & Gillmor, 1999). Action-oriented schemes are by far the predominant type of AES in Europe.

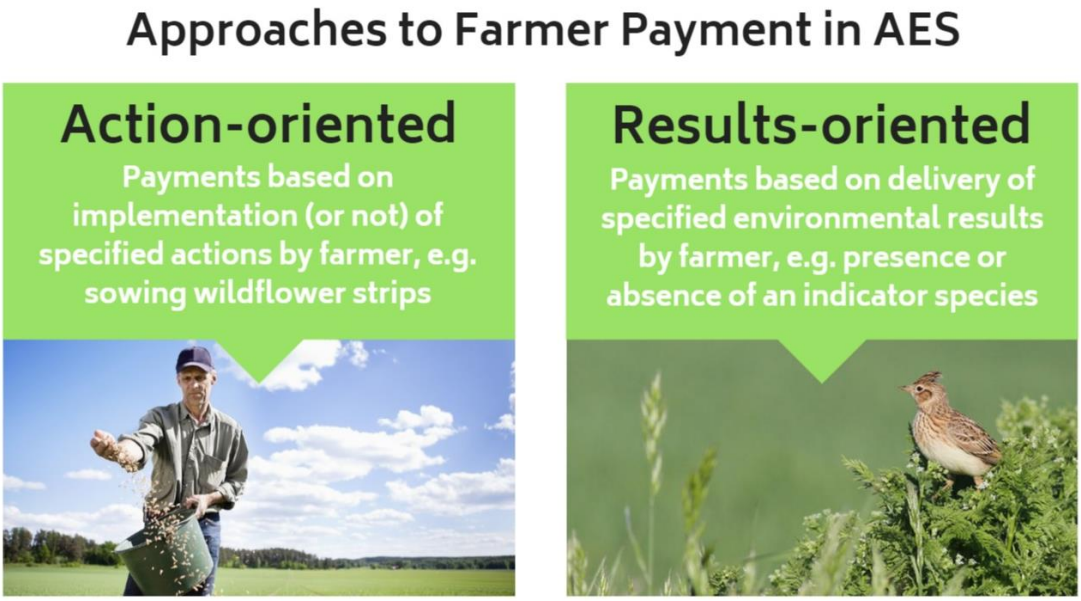

Figure 1-1. Illustration of the two approaches to payments in AESs - action- and results-oriented.

Source: Own elaboration.

[3] Sometimes also referred to as 'prescription-based', 'mainstream' (both Schwarz et al., 2008) and 'management-based' schemes (e.g. Hasund & Johansson, 2016).

[4] Sometimes also referred to as 'results-based remuneration' (e.g. Moran et al., 2018), 'payment-by-results' (e.g. Schwarz et al., 2008), 'indicator-based' payments (e.g. Hasund, 2013), and 'results-based' (e.g. Keenleyside et al., 2014), 'outcome-oriented' (e.g. Siebert, 2010) and 'performance-based' (e.g. Zabel & Roe, 2009) schemes.

As participants of results-oriented schemes, on the other hand, "farmers are remunerated based on the achievement of certain [environmental] results […] and not solely on the implementation of defined management practices" (Wezel et al., 2018, p. 117), based on the assumption that it is within farmers' capabilities to deliver the stipulated environmental result(s) on their land. The achievement of results (or not) and the quantity and/or quality of result(s) delivered, is determined using environmental indicators (for example, the number of plant indicator species present in a transect of a participant's field). Results-oriented schemes are comparatively rare. The French 'Flowering Meadows' scheme is an example of a results-oriented scheme. A pastoral farmer who participates in this scheme receives their payment provided four out of a long-list of floral indicator species are identified in each third of a diagonal transect of the field(s) they enter into the scheme (de Sainte Marie, 2014). This scheme makes a flat-rate payment to participants based on a single indicator threshold (of 4 species), but results-oriented schemes may utilise tiered payments (with multiple increasing thresholds) or continuous payments, in which the magnitude of the payment increases linearly with increasing indicator score (up to an upper limit) (Allen et al., 2014; Hasund & Johansson, 2016).

Results-oriented schemes may be further subdivided into 'pure' and 'hybrid'-type schemes. In pure results-oriented schemes, payments are based solely on the delivery of the specified environmental results, and as long as the results are delivered, participating farmers are free to manage their land as they see fit (although in accordance with their legal obligations) (Allen et al., 2014). The French Flowering Meadows case described above is an example of a pure scheme. In hybrid results-oriented schemes, on the other hand, payments are made based on (i) the delivery of the specified environmental results, and (ii) compliance with specified management prescriptions. In other words, it is a 'hybrid' of the action- and results-oriented approaches. The Burren Programme in Ireland is an example of a hybrid scheme. A farmer who participates in this scheme receives their full payment provided they carry out a specific set of actions *and* provided their land is of a sufficiently high quality (according to a composite 'habitat health' indicator[5]) (Burren Programme, 2015; Dunford, 2016).

A major emphasis is placed on AESs over other policy instruments (Latacz-Lohmann & Hodge, 2003). Since 1985, the EU has steadily increased funding for such schemes. In the previous policy period (2007 - 2013), AESs had a total budget of €34 billion (including Member State co-financing) (Cooper et al., 2009) and for the current period (2014 – 2020) the budget is set at no less than €85 billion (Hasund & Johansson, 2016). Approximately 5% of the total CAP budget (22% of the Rural Development budget) is spent on AESs each year (Pavlis et al., 2016). In 2012, the European Commission spent twice as much on AESs as it did on the maintenance of Natura 2000 sites (Maiorani et al., 2015). Furthermore, over a quarter of the EU's total utilised agricultural area is under the management of one or more AES(s) (Directorate General for Agriculture and Rural Development, 2015) - and this proportion is much greater for certain Member States, e.g. ~94% in Ireland (Cooper et al., 2009).

1.2 Problem Definition

In spite of the substantial faith placed in AESs to address rural environmental problems, the performance of this policy instrument leaves much to be desired.

Justly, the lion's share of research on AESs has investigated their environmental performance. This research has found that environmental outcomes have varied from scheme to scheme and, overall, have been modest at best (for review see Kleijn & Sutherland, 2003, Kleijn et al., 2006,

[5] The composite 'habitat health' indicator used in the Burren Programme is comprised of a number of indicators describing the habitat quality, including grazing level, condition of water bodies (if present) and degree of soil damage.

and Batáry et al., 2015). Evidence even indicated that some schemes may have had unintended negative biodiversity outcomes – in a breakthrough paper published in 2001, David Kleijn and co-authors from the University of Wageningen, found that Dutch farms under AES contracts had fewer species of wader birds than those managed conventionally). Since then, research has attributed the environmental shortcomings of AESs to a number of factors, including inadequate monitoring and evaluation of scheme performance (Kleijn et al., 2001; Berendse et al., 2004; ECA, 2011; Finn & Ó hÚallacháin, 2012), poor elucidation of objectives (ECA, 2011; Whelan & Fry, 2011; Finn & Ó hÚallacháin, 2012), a lack of scientific basis for the selection of management prescriptions (ECA, 2011), a disregard for the context-specific knowledge of farmers (Swagemakers et al., 2009), and poor targeting of conservation priority habitats and species (Zechmeister et al., 2003; Vickery et al., 2004; Wrbka et al., 2008; Hasund, 2013; Reed et al., 2014; Batáry et al., 2015; Rannap et al., 2017). Furthermore, Batáry an co-authors (2015) have concluded that in spite of the availability of such research, the ecological effectiveness of AESs has not improved over time. A number of authors have pointed to an over-reliance on 'broad-and-shallow' national-level action-oriented AESs – favoured primarily for their increased ease of implementation for officials and farmers relative to results-oriented approaches, and due to a "deference" to the wording of the World Trade Organisation [WTO] regulations on agri-environmental payments, which explicitly refer to 'production methods' (i.e. practices), rather than environmental results (Burton & Schwarz, 2013, p.629).

In Ireland, AESs have had uncertain effects. The vast majority of literature investigating scheme performance has investigated the Rural Environmental Protection Scheme [REPS] (1994 – 2009), and, even so, there is insufficient evidence from which to draw unequivocal conclusions on its performance (Finn & Ó hUallacháin, 2012). While a small body of primary research indicates that REPS has been effective in some respects, such as reducing greenhouse gas emissions from livestock (Casey & Holden, 2006) and preventing land abandonment in marginal areas (Finn Ó hUallacháin, 2012), there is tentative evidence to indicate that it failed to promote farmland biodiversity (Feehan et al., 2005; Copland & O'Halloran, 2010). REPS has been heavily criticised for its lack of an integrated system for monitoring and evaluation (Copland & O'Halloran, 2010; Whelan & Fry, 2011; Finn & Ó hUallacháin, 2012). Further criticisms were made regarding the scheme's insufficient targeting of conservation priority habitats and species (Feehan et al., 2005) and its 'one size fits all' approach, which disregarded the spatial heterogeneity of the Irish rural landscape, and (for this reason) actually lead to environmental degradation in some locales (van Rensburg et al., 2009; Kelley et al., 2013). Additionally, the payment structure of the scheme discouraged participation among larger (and arguably, more intensively managed) farms (Emerson & Gillmor, 1999). To the knowledge of the author, there is only one example (Ó hUallacháin et al., 2016) of a peer-reviewed evalutation of the two more recent national-level Irish AES – the Agri-Environment Options Scheme [AEOS] and the Green Low-Carbon Agrienvironment Scheme [GLAS]. This study criticised both schemes for their vague objectives, use of insufficiently strict eligibility criteria and poorly researched management prescriptions regarding the management of semi-natural grassland plots, which they believed would deliver little ecological improvement on the grassland in question. They also found that Natura 2000-designated grassland was of significantly higher ecological quality (in terms of plant species richness and percentage cover of positive/negative indicator species) than that which was managed under AEOS.

While the environmental effectiveness is (aptly) the primary concern of policy-makers with respect to AESs, the question of whether these schemes stimulate durable pro-environmental attitudinal and behavioural change among their participants is also worthy of consideration, particularly since the schemes themselves are not indefinite. With AES contracts often lasting just one year, farmers may opt in and out of schemes as they please. Participation in Ireland's REPS, for instance, dropped off substantially in the four years after 2001 (when payments were

decreased). Additionally, while Member States are legally obliged to keep national-level schemes in place, regional schemes may appear and disappear again according to whether they are granted funding or not. This begs the question, 'do farmers revert back to their old, intensive ways once they are no longer AES participants, and if so, what is the point of funnelling substantial public funds into temporary agri-environmental contracts?'

Little research (almost none in Ireland) has investigated whether AESs bring about durable attitudinal and behavioural change with respect to environmental conservation among participating farmers. What research has been conducted on the subject indicates that AESs have also had poor performance in this respect. Results from France (Deuffic & Candau, 2006), Ireland (Aughney & Gormally, 2002), Estonia (Herzon & Mikk, 2007) and Switzerland (Schenk et al., 2007) indicate that certain schemes are failing to bring about meaningful attitudinal change among farmers (discussed in greater detail in Section 3.2). In their think piece on the topic, de Snoo and colleagues (2013) asserted that AESs in their "current set-up" (p.70) fail to bring about attitudinal change, only encouraging participation with a minimum level of farmer commitment (supported by the findings of Hodge & Reader, 2010), and only as long as payments are being made. On the other hand, recent research from Finland (Huttunen & Peltomaa, 2016) concluded that a national-level AES was successful in promoting attitudinal change among farmers. The research of Wilson & Hart (2001) found that while one UK AES (the Countryside Stewardship Scheme) was successful in bringing about attitudinal change, another (the Environmentally Sensitive Areas Scheme) was a failure in this regard.

With a view to addressing these potential shortcomings, a number of authors have called for greater consideration of socio-cultural factors in the design of schemes (Allen & Bernhardt, 1995; Morris & Potter, 1995; Nassauer, 1997; Wilson & Hart, 2001; Schmitzberger et al., 2005; de Snoo et al., 2013; Mills et al., 2018). As stressed by Schmitzberger et al. (2005, p.287), "In order to both safeguard the quality of the environmental benefit and ensure the continuation of environmentally sound practices beyond the duration of the current scheme, it is also vital that agroenvironmental programmes contribute towards conservation oriented thinking". Pretty (2003, p.1914) has pointed out that economic incentives are insufficient to bring about long-term sustainable management of natural resources: "Without changes in social norms, people often revert to old ways when incentives end". Mills and colleagues (2018) found that unsubsidised environmentally-beneficial farming practices are carried out for the most part by farmers with intrinsic environmental motivations. It has also been found that providing extrinsic rewards can actually serve to weaken intrinsic motivations (Deci et al., 1999), meaning agri-environmental payments may undermine farmers' intrinsic drive to implement unsubsidised agri-environmental efforts. Indeed, certain authors have expressed concerns that utilising payments alone might diminish the sense of social obligation farmers feel to manage their land in an 'environmentally friendly' manner (Hodge & Reader, 2010).

A number of authors have flagged poor consideration of noneconomic influences on farmer behavior – particularly cultural factors – as a reason for the failure of certain AESs to promote attitudinal change (Burton & Paragahawewa, 2011; Burton & Schwarz, 2013; de Snoo et al., 2013). Within the social fields of Western farming communities, farmers' understandings of what constitutes 'good farming' (and, as such, has high cultural value), tends to involve high productivity (i.e. high yields of conventional agricultural outputs) and 'tidy', uniform landscapes (straight rows of crops, weed-free fields, and well-trimmed hedgerows, for example) (Wilson, 2001; Fish et al., 2003; Walford, 2003; Burton, 2004; Deuffic & Candau, 2006; Gorton et al., 2008; Riley, 2014; Saunders, 2015; de Krom, 2017). Following Pierre Bourdieu's theories of capital (Bourdieu, 1986; 1989; see Section 3.1), Burton & Paragahawewa (2011) have hypothesised that farming according to agri-environmental management prescriptions (i.e. action-oriented schemes) can cause a farmer's land to appear messy and/or unproductive, in

direct contravention with cultural conceptions of 'good farming' as – above all – tidy, productivist land management. Such deviations from 'good farming' may cause the farmer's reputation to decline among their farming peers (Burton & Paragahawewa, 2011; de Krom, 2017). Thus, as Burton & Paragahawewa see it, participating farmers will engage with action-oriented AESs with a minimum level of commitment, in order to maximise their economic gains (in the form of flat-rate agri-environmental payments) while minimising their loss of status within the farming community.

The authors go on to assert that results-oriented AESs are inherently more 'culturally sustainable' than action-oriented schemes, meaning they are more likely to embed agri-environmental management in farming cultures (and thereby promote durable pro-environmental behavioural change). According to the authors, this is because results-oriented schemes, rather than dictating to farmers how to manage their land, allow farmers to demonstrate their own knowledge and skills to their fellow-farmers in their delivery of agri-environmental goods.

It is worth noting at this point (as illustrated by Soini & Birkeland (2014)) that there are multiple understandings of 'cultural sustainability' in the academic literature. Broadly speaking, there are two interpretations of the concept. Firstly, there is the characterisation of cultural sustainability as a 'fourth pillar' of sustainability, referring to "the recovery and protection of cultural identities." (Farsani et al., 2011, p. 30). Research in this field has addressed, for example, conserving the cultural heritage of indigenous Australians (Acton et al., 2017), of Sami communities in Northern Scandinavia (Härkönen et al., 2018), and of speakers of Scottish Gaelic and Welsh in the UK (Haf & Parkhill, 2017). The second interpretation – that which is used in this research – refers to the way in which culture informs attitudes and beliefs that influence the durability of policy instruments (Soini & Birkeland, 2014). When applied to the study of environmental policy, it asks 'to what degree does this policy instrument embed environmentally sustainable behavior in the culture in question?'.

While limited research has applied Bourdieu's theories of capital to the study of AESs (Burton et al., 2008; Huttunen & Peltomaa, 2016; Riley, 2016; de Krom, 2017), to the author's knowledge, there is only one (very recent) example of the concept of cultural sustainability being applied in the assessment of environmental policy (Gustavsson (in press)). That study has analysed fishery sustainability policy rather than agri-environmental policy. Thus far, no published research has directly investigated the cultural sustainability of an AES, and the assertions of Burton & Paragahawewa (2011) regarding results-oriented AESs go untested seven years later.

1.3 Research Objectives & Questions

Following Bourdieu's theories of capital (see Section 3.1.), this research seeks to assess the cultural sustainability of a results-oriented AES – that is, to establish whether the activities undertaken by scheme participants became embedded into the farming culture in question. It will do so by applying a mixed methods approach to investigate the perceptions of the participants of an Irish pilot results-oriented scheme, the Shannon Callows Results Based Agri-environmental Payment Schemes [RBAPS] pilot scheme. The research questions are as follows:

How culturally sustainable was the Shannon Callows RBAPS scheme?

i. *To what degree were forms of social and cultural capital accumulated by participants?*
ii. *To what degree did participants demonstrate their embodied cultural capital?*
iii. *To what degree did the scheme bring about attitudinal change among its participants?*
iv. *To what degree do participants intend to continue farming as they did under the scheme without payment?*

The Shannon Callows scheme serves as a useful case study for the investigation of cultural sustainability in an AES, since (i) it was results-oriented and (ii) it had just ended at the time that the research was being conducted, meaning the former participants were in a good position to reflect on their entire experience of the scheme, their attitudinal change (or not) by virtue of their involvement, and their intentions for future land management. While it was not the objective of the Shannon Callows scheme to be culturally sustainable and, as such, this research does not constitute an evaluation of the scheme's success, it nevertheless serves as a useful case study for the aforementioned reasons.

The overarching purpose of this research is to contribute in some small way to the development of culturally-informed agri-environmental policy which promotes equitable and environmentally sustainable farming in the long-term. The intended audience are policy-makers, policy scholars and administrators of AESs. Such research may be of value to the European Commission (who are actively investigating the potential of results-oriented schemes) and national-level policy-makers within the EU as they prepare their rural development programmes for the 2020 – 2026 policy period.

1.4 Disposition

The contents of this research paper are set out as follows:

Chapter 2 introduces the case at hand (the Shannon Callows RBAPS scheme and its context) and outlines the methods for data collection and analysis. Limitations and ethical considerations associated with the study are also presented.

Chapter 3 presents the Bourdieusian theoretical framework used to conceptualise this research, followed by the results of a literature review on the cultural sustainability of European AESs.

Chapter 4 presents the research findings – the results of the survey and interviews of the Shannon Callows RBAPS scheme participants.

Chapter 5 presents a discussion of these results. The significance and implications of the findings are discussed. Findings are compared with those of relevant extant literature. Recommendations are made for policy-makers and AES administrators.

Chapter 6 presents major conclusions and makes suggestions for further research.

2 Methodology

This chapter (i) introduces and contextualises the case at hand, (ii) presents the methods for data collection and analysis, and (iii) discusses the scope, limitations and ethical considerations associated with the research.

2.1 Case Study

In this section, the case study (i.e. the Shannon Callows RBAPS scheme) is introduced and placed in the context of (i) the Irish agri-environmental policy framework and (ii) the rural environmental issues which it sought to address. Firstly, the AESs of Ireland (some of which will be referred to throughout the paper) are introduced. Secondly, the study site and the Shannon Callows scheme are described insofar as is relevant to this research.

2.1.1 Ireland's Agri-environmental Schemes – An Overview

Since the introduction of Regulation (EEC) 2078/92, which made AESs mandatory for Member States, Ireland has had three major national-level schemes: the Rural Environmental Protection Scheme [REPS] (1994 – 2009), the Agri-environment Options Scheme [AEOS] (2009 - 2014) and the extant Green Low-carbon Agri-environment Scheme [GLAS] (2014 – 2020). They have all been horizontal (open to application from all Irish farmers), action-oriented, involved five-year contracts with the Department of Agriculture, Food and the Marine [DAFM], and required applicants to employ agricultural advisors to assist in the completion of farm management plans.

REPS required participants to implement 11 mandatory and 6 supplementary management prescriptions on their land (the latter of which were chosen by the farmer from a 'menu' of possible options) (Emerson & Gillmor, 1999). It was a broad scheme in that its management prescriptions addressed many aspects of farm management and were applied to the whole farm (Emerson & Gillmor, 1999). The scheme placed a particular emphasis on the prevention of nutrient run-off (Emerson & Gillmor, 1999). Mandatory requirements included 20 hours of agri-environmental education (Emerson & Gillmor, 1999) and so we may assume that some degree of embodied cultural capital was accumulated by the scheme's participants. Although the fundamental model remained the same, REPS was reformed somewhat through its various iterations (REPS-1, 2, 3 and 4) (Whelan & Fry, 2011). In response to criticism, the major thrust of these reforms was to place a greater emphasis on biodiversity conservation over time (van Rensbrug et al., 2009).

There is very little reference to the more recent AEOS or GLAS schemes in the academic literature. AEOS, the scheme which replaced REPS, has been described as "a more limited" (Howley et al., 2014, p. 251), "much more modest" (Yadav & O'Neill, 2013, p. 63) scheme. It offered participants lower agri-environmental payments and, unlike the whole-farm-based REPS, applied only to discrete areas of the farm in question (Yadav & O'Neill, 2013).

AEOS was replaced by GLAS in 2014. According to the Irish Rural Development Programme (2014 – 2020), GLAS is more targeted at conservation priority habitats and species than the previous national AESs (DAFM, 2017a). It employs a tier-based system such that farmers with high nature value farmland (such as Natura 2000 designated sites) receive preferential admission into the scheme (DAFM, 2017a). A more challenging version of the scheme, GLAS+, is available to farmers who "deliver an exceptional level of environmental benefit" (DAFM, 2017a, p. 24). Roughly a third of all Irish agricultural land is managed under GLAS contracts (Elliott & Image, 2018).

In addition to these schemes administrated by the DAFM, is the Irish National Parks and Wildlife Services [NPWS]'s action-oriented Farm Plan Scheme, which aims to develop best

practices approaches to biodiversity conservation on high nature value farmland and in rural areas that have been designated for protection (Anon, 2017).

There is also an increasing number of smaller, regionalised AESs in the Republic of Ireland. Under the remit of the Farm Plan Scheme, the NPWS has developed the Corncrake Farm Plan Scheme, aimed at conserving the red-listed farmland bird (*Crex crex*) (Colhoun & Cummins, 2013). This scheme was administered in the Shannon Callows study region from 2008 – 2014 (NPWS, 2015) and is currently administered in Special Protection Areas [SPAs] in Counties Donegal and Mayo (NPWS, 2018). The Burren Programme is a hybrid AES administered by a local group in the Burren region of Co. Clare. It was established in 2005 to address the sustainability issues associated with farming on the unique karstic limestone landscape of the region (Dunford, 2016), an area that was not well served by the one-size-fits-all approach of REPS (Kelley et al., 2013). The action-oriented KerryLIFE Project is aimed at conserving the freshwater pearl mussel (*Margaritifera margaritifera*) in two river catchements of the Iveragh peninsula, Co. Kerry (KerryLIFE Project, 2018). The AranLIFE Farming Project (also action-oriented) is aimed at conservation of Natura 2000 designated habitats on farmland of the Aran Islands, Co. Clare (AranLIFE, 2018).

A number of regionalised schemes have also been established under the remit of the European Commission's European Innovation Partnerships Agricultural Productivity and Sustainability [EIP-AGRI] Initiative. Among these is the Hen Harrier Project, a hybrid AES aimed at promoting the conservation of the hen harrier (*Circus cyaneus*) (Hen Harrier Project, 2018), a prey bird of conservation concern (Colhoun & Cummins, 2013).

As these examples show, while there are several hybrid AESs in Ireland, prior to the introduction of the results-oriented pilot project studied in this research, no Irish farmer had received agri-environmental payments based purely on the delivery of specified agri-environmental results.

2.1.2 The Shannon Callows Results-oriented Scheme[6]

With the intention of testing the results-oriented approach for AESs on the ground in the EU, in 2014, the Directorate-General for the Environment of the European Commission [EC] launched the so-called 'RBAPS' pilot project, putting out a call for proposals for pilot results-oriented schemes. The proposal of a consortium of organisations from Ireland, the United Kingdom and Spain (including BirdWatch Ireland and the Irish NPWS) was successful in securing funding for the development and implementation of three pilot schemes (in Co. Leitrim, Ireland; the Shannon Callows region, Ireland; and in Navarra, in Northern Spain) for the duration of three and half years. Thus, in 2015, the Shannon Callows RBAPS pilot scheme was established. Its objectives were to (i) develop and test indicator-based scorecards for calculating results-oriented agri-environmental payments and (ii) produce best practice agri-environmental management guidelines for the habitats in question.

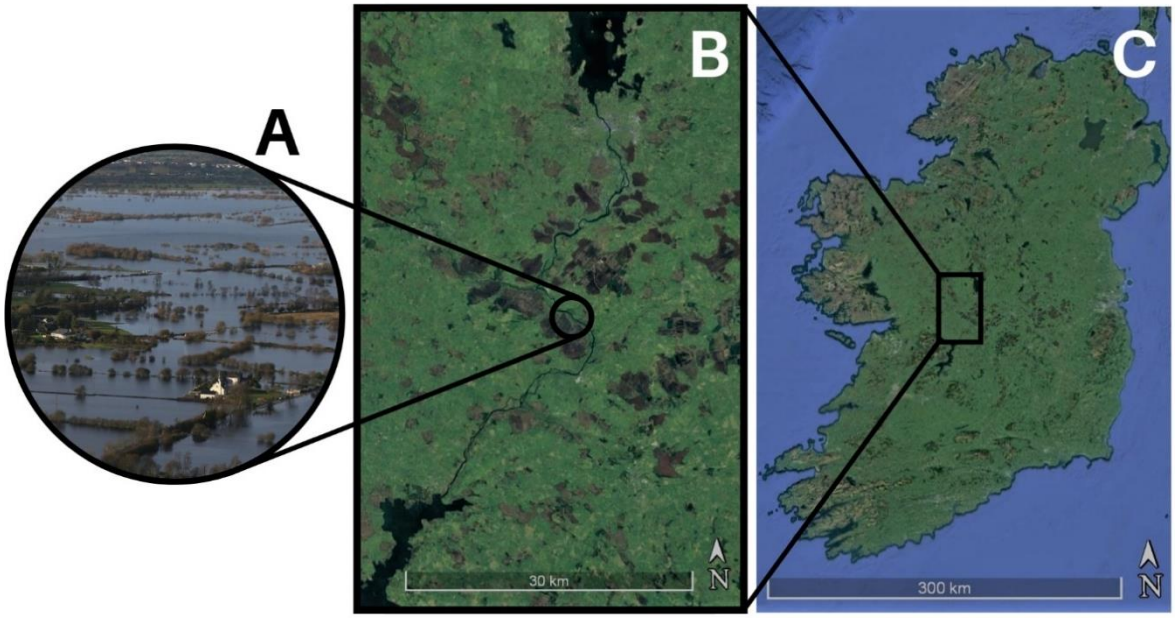

Figure 2-1. The study site.

Satellite image C (source: Google Earth, 2018) shows the location of the Shannon Callows on the island of Ireland. Satellite image B (source: Google Earth, 2018) shows the study area. The section of the River Shannon between Lough Ree and Lough Derg transects the image. Aerial photograph C (source: Irish Times, 2015) depicts winter flooding of farmland on the Shannon Callows. Source: Own work.

The 'Shannon Callows' is the name given to the extensive lowland floodplains of the River Shannon (the longest river in Britain and Ireland) situated in the Western Midlands of the Republic of Ireland (see Figure 2-1). The term 'callow' is derived from the Irish word '*caladh*', meaning 'river meadow'. Since the River Shannon has an extremely shallow gradient (the shallowest of any of Europe's long rivers) and since efforts at channelisation have largely been in vain, the Shannon's 'flood problem' has persisted to the present day, preserving the characteristic species-rich flood meadows (Figure 2-2) between Lough Ree and Lough Derg (the 'Middle Shannon' – see Image B in Figure 2-1). At 4,500 ha in size, the Shannon Callows take in parts of Counties Galway, Offaly, Roscommon, Tipperary and Westmeath. (Heery, 1993).

[6] Unless otherwise stated, the following information is from the RBAPS website (n.d.)

By virtue of its rarity in the Western European context as an intact, relatively unregulated floodplain, the Shannon Callows region is of immense ecological value (Heery, 1993). Its hydrological regime of periodical flooding in the winter and spring months and traditional grassland management maintain high plant species diversities on its riverside meadows (Maher, 2013), and the region is of international importance as a habitat for overwintering waterbirds (Maggie & Coveney, 1995). Much of the Callows region has been designated as a Special Area of Conservation [SAC] or a Special Protection Area [SPA] under the EU Nature Directives (NPWS, 2012; 2013).

Figure 2-2. A partially mown species-rich flood meadow of the Shannon Callows with wildflowers in bloom.

Source: RBAPS (n.d.)

Land use on the Shannon Callows is predominantly agricultural and farming is pastoral, with a combination of traditional hay meadow management and rearing of livestock – largely dry cattle (beef) (Maher, 2013) – but also some sheep and horses (Heery, 1993). Winter flooding of land has limited the capacity for intensification of agricultural practices in the region (Heery, 1993). Ploughing and re-seeding of callows, for instance, is rendered futile by the floods (Heery, 1993). However, intensification has occurred to some degree in recent years - increased use of artificial fertiliser and herbicide, increased stocking densities[7], the commencement of mechanisation and earlier summer mowing have all occurred on the callows since the 1960s (Heery, 1993). While land management is still relatively extensive on the flood meadows, intensification has been a driver of biodiversity loss in the region (Maggie & Coveney, 1995). Most notably, this has been exemplified by the recent regional extinction of the corncrake (*Crex crex*), whose significant breeding population in the callows has been lost due to summer flooding (which destroys nests) and early mowing (which kills meadow-dwelling offspring) in spite of the best efforts of the NPWS, BirdWatch Ireland and sympathetic local farmers (Heery, 1993; Deegan, 2015; NPWS, 2015; Shannonside News, 2018).

[7] Number of grazing animals per unit land

Twenty five farmers in total have participated in the Shannon Callows RBAPS pilot project, which ended in June of this year (2018). The scheme had three options (or measures) in which farmers could enroll: (i) the species-rich flood meadow [SFM] measure, (ii) the ground nesting birds [GNB] measure, and (iii) the breeding waders measure. The researcher was granted access by the scheme administrator to the 17 farmers who had participated in the SFM and GNB measures, but not those who had participated in the breeding waders measure. Thus, the sample size was 17. Table 2-1, below, provides an overview of what the SFM and GNB measures entailed.

Table 2-1. Overview of SFM and GNB measures of the Shannon Callows RBAPS scheme.

Measure	Details
Species-rich flood meadow [SFM]	A pure results-oriented measure in which the desired result was a meadow with high ecological integrity, as indicated primarily by plant species indicators. Scorecard (i) awarded points based on the number and cover of positive indicator species present and (ii) subtracted points based on the number and cover of negative indicator species present, degree of litter accumulation, and evidence of harmful activities on the part of the participating farmer.
Ground nesting birds [GNB]	A hybrid measure which effectively combines the results-oriented SFM measure with a mandatory mowing restriction, disallowing mowing of meadows until after 15th of July in order to encourage successful breeding. Available only to farmers participating in the SFM measure with whinchat (*Saxicola rubetra*) and/or curlew (*Numenius arquata*) identified by scheme officials in the plot(s) enrolled.

Source: Own elaboration of information from RBAPS (n.d.).

While the SFM measure was 'pure' results-oriented, in that payments were made solely on the basis of agri-environmental results, farmers who participated in the GNB measure were effectively engaged in a hybrid scheme, in that payments were made on the basis of both agri-environmental results, and on the condition of compliance with a management prescription (the mowing restriction).

The level of per hectare payment for all participants was calculated using indicator-based scorecards, as outlined in Table 2-1. The researcher has been asked not to share specific information regarding payments but can disclose that the average payment under the scheme was substantially lower than that of the extant national-level action-oriented scheme, GLAS.

2.2 Methods for Data Collection

In this section, the methods employed for data collection in (i) literature review, (ii) survey and (iii) interviews are presented. For primary data collection the sequential explanatory mixed methods approach (Creswell, 2003) was employed. In other words, qualitative (survey) data were collected and analysed first and then, based on the findings, a number of more in-depth in-person interviews (qualitative data collection) were conducted. This approach was employed to (i) enhance the bredth and depth of the case study within the limited time frame for conducting research (4 months), and (ii) to minimise the effects of bias due to just one researcher conducting and interpreting all of the qualitative data from the interviews.

2.2.1 Literature Review

A qualitative literature review was conducted to determine to what degree previous and extant European AESs (both action- and results-oriented) have been 'culturally sustainable', by asking to what degree (i) cultural and social capital have been accumulated by participants, (ii) farmers demonstrated their own embodied cultural capital through participating and (iii) attitudinal and

behavioural change occured. The findings of this review are presented in Section 3.2. Relevant papers to include in this review were identified by (i) conducting key word searches in Google Scholar, EBSCO and Science Direct search engines, and (ii) by consulting the bibliographies of previously identified relevant papers. The criteria for selecting relevant literature was as follows: (i) it is a primary peer-reviewed academic paper, or a conference paper or report from a reputable source, (ii) it is published in English, (iii) it studies action- and/or results-oriented agri-environmental schemes of EU or EFTA states only, (iv) it presents original results related to farmers' perceptions of a scheme/schemes, and (v) these results relate to social and/or cultural capital of farmers, and/or behavioural and/or attitudinal change among farmers. In accordance with the aforementioned criteria, 26 papers were deemed relevant for inclusion in the literature review.

2.2.2 Survey

A survey among RBAPS farmers was conducted from 9th July – 11th August 2018 (see Appendix A for survey script). A list of participants was provided to the researcher by an official of the Shannon Callows scheme. This list included all but one participant, who did not wish to be contacted due to ill health. Each of these farmers in turn was contacted (first via text message and thereafter via phone call) and asked if they consented to be surveyed at a time of their convenience. All of the farmers who were contacted by the researcher initially agreed to participate in the survey. However, two individuals could not be reached when follow up calls were made. A total of 14 farmers based in Counties Offaly, Roscommon, and Westmeath participated in the survey – a high response rate of 82% allowing the author to conclude that the responses are highly representative of the overall views of those farmers who participated in the SFM and GNB measures of the Shannon Callows RBAPS scheme.

Surveys were conducted over the phone, with the exception of two surveys, which were distributed by post to subjects who preferred to complete the surveys themselves (in these cases, postage-paid envelopes for returning forms were included in survey packs). Phone surveys typically lasted no longer than 15 minutes. The survey addressed:

1. farmer demographics and farm characteristics,
2. motivations for participation,
3. farmers' perceptions of the scheme, particularly with a view to determining whether embodied cultural capital (knowledge and skills), objectified cultural capital (tangible evidence of positive performance on a farmers' land), and social capital (relationships with farmers and non-farmers) were accumulated by participants,
4. whether participants had used their own embodied cultural capital in the management of their scheme plots, and
5. whether attitudinal change had occurred and whether farmers intended to continue with the same manner of agri-environmental management now that the scheme itself was over.

The majority of the survey questions were closed. A combination of 'yes/no', 'check one box', 'check all that apply' and 3 or 5-point Likert scale-type questions was employed. A small number of open questions were employed to allow farmers to volunteer information without leading their responses. Since audio recordings were not made of phone surveys, during and immediately after each survey, written notes were made of relevant comments made by respondents that fell outside the scope of the survey questions (see Appendix B).

2.2.3 Interviews

Only those individuals who participated in the survey were contacted regarding interviews. In order to maximise the breadth of the responses obtained, an effort was made to include farmers in the interview phase who had expressed a diversity of opinions on the scheme during the surveys – in other words, farmers who expressed favourable, negative and ambivalent attitudes with respect to the scheme were contacted and asked if they consented to be interviewed. Two individuals were deemed to be unsuitable interview candidates. All farmers who were contacted regarding interviews expressed a willingness to participate but farmers' availability and the researcher's schedule dictated the final interview sample.

Table 2-2. Characterisation of interviewees.

Interviewee	Age category	Farm type	Farm size (ha)
Farmer 1	45 – 54	Hay only	6
Farmer 2	45 – 54	Beef	45
Farmer 3	45 – 54	Sheep	32
Farmer 6	55 – 65	Mixed livestock	40
Farmer 11	>65	Beef	42

On the 9th and 10th of August 2018, semi-structured interviews were conducted with five of the farmers who had participated in the Shannon Callows RBAPS (Table 2-2). Interviews were conducted at farmers' homes, with the exception of one, which was conducted at a bar in the town of Shannonbridge. Five was deemed to be the maximum reasonable number of interviews that could be conducted, transcribed and analysed to an acceptable standard in the limited time available to the researcher. In accordance with the aforementioned sequential explanatory methodology, the interview guide was largely informed by the responses to the survey. The duration of interviews ranged from 15 to 38 minutes, and the average duration was 25 minutes. Topics covered were the same as those addressed in the surveys with the exception that farmers were also asked about their opinions on the national-level action-oriented AESs. Interviews were recorded using a voice recording app and transcribed by the researcher by ear (see Appendix D).

2.3 Methods for Data Analysis

2.3.1 Literature Review

A qualitative analysis of the selected papers was conducted using the concept matrix approach outlined in Webster & Watson (2002). That is to say, sources were listed on the y-axis (leftmost column) and relevants themes were entered into the x-axis (uppermost row). Relevant findings and conclusions from each source in turn were entered into the matrix cells according to the theme in question. The results of this literature review are presented in Section 3.2.

2.3.2 Descriptive Statistics

Survey data was collated and analysed using IBM SPSS Statistics software. Since the sample size was small and the data categorical and non-parametric, statistical analyses were not employed. Instead descriptive statistics were used to ascertain frequencies of responses to questions. For open-ended survey questions, responses were coded thematically and ranked in order of frequency.

2.3.2.1 Farm and farmer characteristics

See Table 2-3 for an overview of farm and farmer characteristics, according to survey responses.

With the exception of one woman, all of the land-owners surveyed were male. The majority of survey respondents were between the ages of 45 and 65. The mean farm size was 34.14 hectares. Beef was by far the predominant form of production on participants' farms, with dairy production and sheep farming occurring to a much lesser degree. Since all of the participants had flood meadows (callows), all were also producing hay and/or silage to some degree. Two respondents had no livestock and were producing only hay.

The majority of respondents had participated in one year of the scheme (2016 or 2017) but not the other. Half of respondents had entered one meadow plot into the scheme, while the other half entered two. Five survey respondents had participated in the SFM option only, meaning they had not been subject to a mowing restriction and had experienced the pure results-oriented approach. Another four respondents had been selected to participate in the GNB option for the entirety of their involvement in the scheme, meaning they had been subject to a mowing restriction and effectively participated in a hybrid scheme. A further five respondents had participated in both options. They had experienced both the SFM and GNB options, but separately – either (i) in different years, or (ii) on different scheme plots, or (iii) both. Thus, these five individuals had experience of both the pure results-oriented and hybrid approaches.

Table 2-3. Descriptive statistics related to farm and farmer characteristics of survey respondents.

Variable	**Frequency by category**					
Gender	Male	Female				
	13	1				
Age group	<35	35 - 44	45 - 54	55 - 65	>65	
	1	0	5	5	3	
Farm size (ha)	<25	25 - 44	45 - 64	>65		
	6	4	2	2		
Production type	Beef only	Hay only	Mixed livestock	Beef-dairy	Sheep only	Dairy only
	8	2	1	1	1	1
Years in scheme	2016 only	2017 only	Both years			
	2	7	5			
Plots in scheme	1	2				
	7	7				
Scheme option	SFM only		GNB only		Both separately*	
	5		4		5	

**Farmers who participated in both options but either (i) in different years, or (ii) on different plots.*

2.3.3 Interviews

Transcriptions of all interviews were read multiple times and analysed using a combination of directed and conventional content analysis (according to the typology presented in Hsieh & Shannon, 2005). Coding categories for the content analysis were (a) pre-set according to concepts of the conceptual framework as presented in Section 3.1 (directed content analysis) and also (b) allowed to emerge or "flow from the data" (Hseih & Shannon, 2005, p. 1279) (conventional content analysis). This dual approach allowed the researcher to explore the extent to which factors other than those outlined in the conceptual framework may have influenced the cultural sustainability and broader farmer perceptions of the Shannon Callows RBAP scheme. This approach was adopted in order to minimise bias towards the theories presented herein (see Chapter 3). As stated by Hsieh and Shannon (2005, p. 1283), "an overemphasis on the theory can blind researchers to the contextual aspects of the phenomenon". Since there is so little published research on results-oriented schemes, the author thought it prudent to

consider all relevant themes. Initial content analysis and development of the code book was conducted by hand. Then the codebook and the transcriptions were imported into the NVivo Plus qualitative analysis programme, and coding of transcriptions was conducted therein.

2.4 Ethical Considerations

A policy of prior informed consent was applied in this study. All of the farmers who were contacted had given consent to a scheme official to have their contact details shared with the researcher. During interviews, audio recordings were commenced only with the consent of the interviewee in question. Survey respondents and interviewees were informed in advance that they were not obliged to respond to any questions that they did not wish to answer. If interviewees indicated (even implicitly) that they expected any responses to be 'off the record' or shared information that – if made public – could negatively affect them, the text in question was excised from the public transcription and excluded from analysis.

In order to preserve the confidentiality of those individuals who participated in this study, subjects were assigned numberical pseudonyms (i.e 'Farmer 1', 'Farmer 2', etc.). All confidential information (personal/contact details of participants, completed survey forms, collated survey dataset, transcriptions and audio recordings of interviews) was stored offline at all times, on a device with antivirus software and/or in hard copy. Cloud computing applications such as Dropbox and Google Drive were never used to store the responses or confidential information of subjects. Hard and digital copies of survey and interview data and the contact details of subjects will be stored (offline) securely for at least three years after the submission of this research paper. This information will not be shared with third parties under any circumstances.

Honesty regarding the nature of the research was balanced with the need for unbiased responses. Thus, while participants were informed that the researcher's aim was to investigate the opinions and experiences of the farmers who had participated in the Shannon Callows RBAPS scheme, in order to avoid influencing responses, no more detail about the nature of the research was volunteered. For instance, 'behavioural change' was not referred to in the researcher's preamble to the survey/interview.

The researcher made every effort to be polite and respectful towards those individuals who participated in this research. Interviewees were each given a small gift as a token of gratitude when the interviews ended. 'Thank you' cards were distributed by post to all 14 farmers who participated in the study after the data collection period.

This research was not commissioned or funded by the Shannon Callows RBAPS scheme working group or any other organisation. The research was carried out as part of the completion of a Masters degree programme at Lund University, Sweden, and was fully funded by the researcher.

The research proposal for this study was reviewed by the Lund University ethics review board and, according to their criteria, was found not to require a statement from the ethics committee.

2.5 Scope and Limitations

Time was the major limiting factor of this research. Four months of full-time work were allocated for development of the research project from start to finish. While longitudinal studies on the attitudes and behaviour of farmers who have participated in AESs are sorely lacking from the literature, time constraints rendered such a study infeasible. Additionally, while the author acknowledges that a study directly comparing the cultural sustainability of the Shannon Callows RBAPS scheme and the national-level action-oriented GLAS scheme would have been more

insightful – and the possibility of conducting a comparative study was explored – it was decided that there was insufficient time available for such extensive data collection and analysis. This approach would also have decreased the already small sample size, since not all farmers who had participated in the Shannon Callows scheme also had experience with the national-level scheme. However, the topic of farmers' experiences with national level action-oriented AESs was touched upon during the interviews and (to a lesser degree) the surveys, and that is reported on here insofar as is relevant.

The literature review conducted in this research was limited in its scope in a number of ways. Since the sole author is fluent only in English, only papers published in English could be reviewed. This introduces a degree of selection bias, since (not considering the UK and Ireland) over 80% of papers addressing AESs are published in the national language (Kleijn & Sutherland, 2003) and it is likely that some of these papers would have met the literature review selection criteria. The scope of the literature review was restricted to AESs of EU and EFTA states only, since the EU is a distinct policy jurisdiction and agri-environmental policy in these states is subject to more or less the same regulations. That is not to say that the results of this research will not be of relevance in other regions, where AESs are also in use.

Since the Shannon Callows RBAPS AES was a pilot scheme, it had only a small number of participants. For this reason, the sample size of this research was quite small. This fact limits the generalizability of the findings presented in Chapter 4. With a view to increasing the sample size, the author considered the possibility of also including the participants of the Co. Leitrim RBAPS scheme in this research. However, the additional time, travel costs and workload associated with this approach were prohibitive.

This research is concerned with the ability of results-oriented AESs to bring about durable behavioural change among farmers. While the environmental performance of results-oriented schemes is of fundamental importance and warrants further research, that question does not fall within the scope of this research. The author did not have access to scheme data related to its environmental performance.

The farmers who participated in this study did so during an atypical period of prolonged summer drought (English, 2018; Gallagher, 2018; McGreevy, 2018), a situation that was likely a stressor for many farmers. The researcher acknowledges that this may have influenced the attitudes and outlooks of the subjects.

3 Literature Review

This section presents (i) the theoretical framework used to conceptualise this study (Section 3.1) and (ii) the results of a literature investigating evidence of cultural sustainability (or not) in extant EU AESs (Section 3.2).

3.1 Conceptual Framework

The theories of capital put forward by Pierre Bourdieu (1986; 1989) and Robert D. Putnum (2000) provide a useful framework for conceptualising how farmers (may) interact with the social world – with their work, their farming peers, and indeed with AESs. Theories of non-economic capital allow social scientists to move beyond the neo-classical understanding of the farmer as *Homo economicus*[8] and consider how social and cultural factors influence behaviour and decision-making (Riley, 2016). This is important since, although financial considerations are of major importance for farmers, they are seldom, if ever, the sole factor to influence decisions (Schenk et al., 2007; van Herzele et al., 2013; Lastra-Bravo et al., 2015; Wezel et al., 2018).

In his writings, Bourdieu (1986) identified three "fundamental" forms of capital in addition to economic: social, cultural and symbolic. He defines social capital as the aggregate of the "resources which are linked to […] membership in a group – which provides each of its members with the backing of the collectively owned capital" (p.21). In other words, social capital is the sum of the resources available to a person by virtue of their social network. Building on this, Putnam (2000), advanced that there are two forms of social capital – bonding and bridging. Bonding social capital is that which is accumulated within a group (for example, within a farming community), while bridging social capital is that which is accumulated between individuals in different groups (for example, between a farmer and an environmental professional) (Woolcock & Narayan, 2000; de Krom, 2017).

Cultural capital, on the other hand, refers to long-lasting knowledge, skills, dispositions of the mind, and objects indicative thereof. According to Bourdieu (1986), it exists in three forms: (i) embodied (referring to the knowledge, skills and dispositions in the mind of an individual – the skillset possessed by a farmer, for example), (ii) objectified (referring to physical effects which are indicative of the embodied cultural capital of their owner – a tidy, productive field, for example), and (iii) institutionalised cultural capital (referring to certificates, awards and qualifications which formally acknowledge a person's embodied cultural capital – a certificate of agronomic excellence awarded to a farmer at an agricultural show, for example).

Symbolic capital, finally, is not distinct from economic, cultural or social capital, in that it can take any of those forms. It is defined by Bourdieu (1989, p.17) as a status that "various species of capital assume when they are perceived and recognised as legitimate". In more simple terms, it is any capital which conveys a status of prestige to the person who possesses it. Bourdieu (1986) theorises that symbolic capital can be used to transform capital from one form into another.

As demonstrated by Sutherland and Burton (2011) in their research on Scottish farmers, within the social field that is a farming community, farmers with high social capital have access to valuable group resources such as machinery and free labour. Such farmers can avoid the need to use economic capital to obtain these necessary goods and services – through contracting farm labour, for example (Sutherland & Burton, 2011). Individuals who have a reputation as a 'good farmer' among their peers – those who demonstrate legitimate embodied cultural capital in deed

[8] *Homo economicus* (or 'economic man') refers to the conceptualisation of man in neo-classical economics as a decision-maker defined by unbounded economic rationality and a desire to accumulate wealth (economic capital) (Persky, 1995).

or indirectly through the appearance of their land – have symbolic cultural capital that can be converted into social capital, allowing greater access to group resources (Sutherland & Burton, 2011). The phenomenon of 'roadside farming' (Seabrook & Higgins, 1988; Egoz et al., 2001; Burton, 2004), whereby farmers make special efforts to maintain the appearance of roadside land in order to avoid negative judgement from passing peers, is testament to the value of objectified cultural capital.

As outlined in Chapter 1 in non-technical terms, Burton & Paragahawewa (2011) have hypothesised that results-oriented AESs are more culturally sustainable than action-oriented AESs, since action-oriented schemes contravene (in their view) with the cultural capital generation of farmers (Burton et al., 2008). That postulation will now be framed in terms of the theories of capital presented above (as originally put forth by the authors). Figure 3-1 provides a visual representation of the conceptual framework, and aims to illustrate how the concepts relate to each other, as described below.

Burton & Paragahawewa (2011) have postulated that since action-oriented schemes dictate management prescriptions to farmers, they do not allow them to demonstrate their own knowledge and skills (embodied cultural capital) to their peers. On the contrary, the extensive management prescriptions in question may cause their land to become visibly more 'natural', less 'tidy' and productive, causing their reputation as a 'good farmer' (symbolic cultural capital) to decline, and causing them to lose respect (bonding social capital) within the farming community. It follows that their privileged access to group resources is also diminished. In this hypothetical scenario, economic capital (the scheme's payments) provide the only incentive to farmers to implement agri-environmental management. Hence, when payments cease, agri-environmental management follows suit and farmers revert to their old (more intensive) ways.

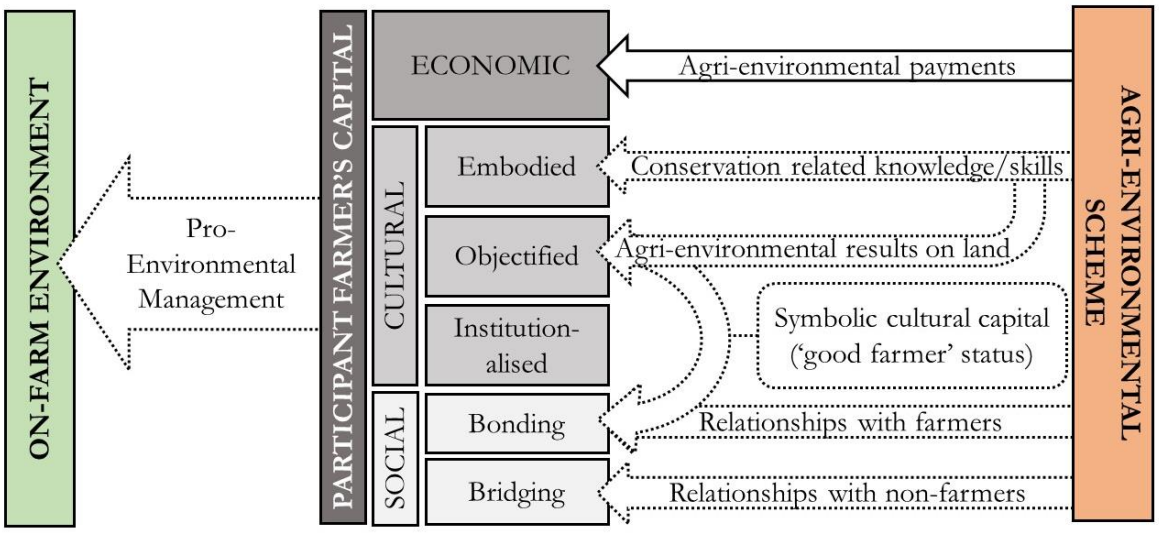

Figure 3-1. Illustration of conceptual framework.

Source: Own elaboration.

The authors have further postulated that since results-oriented schemes (theoretically) allow farmers to use their own knowledge and skills to deliver the stipulated environmental results, they allow farmers to demonstrate embodied cultural capital to their farming peers. The output-oriented nature of the scheme might be better aligned with productivism, and productivist farmers may come to regard agri-environmental goods as akin to conventional farm outputs. Evidence of the successful delivery of the stipulated environmental results on the land of a

participating farmer take the form of symbolic objectified cultural capital (i.e. symbols of 'good farming') that are indicative to like-minded peers of the farmer's prestige in the delivery of agri-environmental goods, in the same way that neat, equidistant, parallel rows of crops are indicative of a farmer's prestige in the delivery of conventional farm outputs. The possession of symbolic capital allows the farmer to transform his cultural capital into bonding social capital among his farming peer group, allowing him enhanced access to group resources. In this hypothetical scenario, agri-environmental management is incentivised by non-economic (social and cultural) capital in addition to economic capital. Furthermore, the bonding social capital shared among (former) scheme participants might reinforce environmentally sustainable behaviours by way of new social norms (Pretty, 2003). Hence, when payments cease, there is a much greater likelihood of farmers continuing to implement agri-environmental management.

Thus, following Bourdieusian theories of capital, it has been postulated that results-oriented schemes can cause agri-environmental management to become embedded in farming culture.

Indeed, there is evidence to suggest that conceptualisations of 'good farming', rather than being static, may be adaptable in response to changing circumstances, or 'rules of the game' (Haggerty et al., 2009; Sutherland & Darnhofer, 2012; Riley, 2016).

3.2 European AESs and Cultural Sustainability

This section presents the results of a literature review investigating the cultural sustainability (or lack thereof) of extant EU AESs (for methods see Sections 2.2.1 and 2.3.1, above). Relevant research findings are presented below in terms of the conceptual framework outlined in the previous section. With the exception of one paper (Burton et al., 2008), these studies did not use Bourdiesian theories of capital to frame their research. Results on action-oriented schemes are presented first (Section 3.2.1), followed by results-oriented schemes (3.2.2). Conclusions are drawn in light of the findings in Section 3.2.3)

3.2.1 Action-oriented Schemes

3.2.1.1 France

In France, Deuffic and Candau (2016) interviewed 17 participants of the national-level action-oriented scheme, the 'Territorial Farming Contracts' in order to investigate how their professional identities had been affected by the "*ecologisation* of their activities" (p.563). It would appear that the scheme contravened with the productivist farming culture of its participants. Many interviewees felt that the measures under the scheme were at odds with 'good farming', casting them as 'gardeners' rather than farmers. As stated by the authors, "They learned to produce and this is what defines them as farmers, above all else" (p.573). They conclude that the majority of participants had not undergone meaningful attitudinal changes.

3.2.1.2 Estonia and Finland

Herzon and Mikk (2007) interviewed farmers who had participated in AESs in Estonia (n = 27) and Finland (n = 24) in order to assess their ecological knowledge (embodied cultural capital) and their willingness to implement efforts to promote biodiversity. They found that, in spite of their involvement in AESs, interviewees (and particularly Estonian farmers) generally had limited ecological knowledge (i.e. it would not appear that they accumulated substantial embodied cultural capital through their involvement). Accordingly, the author's criticised the countries' respective national-level schemes for failing to deliver a satisfactory standard of environmental education. Most respondents expressed a willingness to continue with low-cost traditional agri-environmental efforts even without payment (although it was unclear whether these efforts would have been undertaken without payment *prior* to participation in the national-

level AESs). Respondents expressed that they would require compensation for more costly efforts (e.g. planting of hedgerows) or those that would hinder productivity (e.g. reduced agrochemical use), perhaps indicating that extensive land management had not become embedded in the farming cultures in question. Willingness to undertake unsubsidised environmental efforts was positively correlated with self-reported interest in wildlife but not with knowledge of wildlife, indicating the intrinsic environmental motivations are not brought about by pro-environmental knowledge, *per se*.

3.2.1.3 Switzerland

Schenk et al. (2007) interviewed 22 participants of Swiss AESs (although it is not clear what schemes the subjects were enrolled in or whether there were multiple schemes, which is problematic), in order to identify factors influencing scheme acceptability among participants. It was found that a disregard for farmers' own knowledge (i.e. embodied cultural capital) and a lack of 'freedom to farm' did not sit well with participants. Rather than promoting attitudinal change, this scheme bred resentment among farmers and interviewees largely expressed an intention to stop implementing the associated agri-environmental measures once the payments stopped. While the authors were not assessing the scheme(s)' cultural sustainability, in light of their findings we may conclude that they were not culturally sustainable.

3.2.1.4 England

In a large-scale longitudinal study, Macdonald & Johnson (2000) found that English farmers' attitudes towards wildlife had improved in concurrence with increasing implementation of agri-environmental measures between the early 1980s and late 1990s. However, attitudinal change could not be directly attributed to AES participation or decoupled from other potential influences, such as broader changes in social norms with respect to the environment until Wilson and Hart (2001) demonstrated a clear causal link between attitudinal change and scheme participation. They surveyed 200 English farmers, half of which were participating in the Countryside Stewardship Scheme [CSS], and the other half of which were participating in the Environmentally Sensitive Area [ESA] scheme. They found that roughly a third and a quarter of each group, respectively, agreed that their attitudes towards farming had changed by virtue of their participation in these schemes. The authors attributed the greater success of the CSS in this respect to the fact that it necessitated greater changes in farming practices of participants (whereas the ESA scheme required very little or no change). They also pointed out that insufficient monitoring of the ESA scheme caused some of its participants to take it less seriously, which they say may have impinged upon its ability to effect attitudinal change. What is not clear from this research is whether the described attitudinal change would have resulted in a durable behavioural change (even if scheme payments were to stop).

Fish et al. (2003) interviewed 100 participants of the ESA scheme and CSS. For at least some of the interviewees, it seemed that agri-environmental management had become integrated into conceptualisations of 'good farming' – as one farmer stated, "I wouldn't be much of a farmer if I said that [the ESA scheme] was a bad thing" (p.23). At the same time, there was some evidence that agri-environmental measures contravened with 'good farming' with certain farmers disapproving of measures implemented by peers that reduced their productivity ("They don't farm it. They're just keeping the land now") (p.29). Some farmers also expressed that building bridging social capital with scheme officials through participation was important for securing future licence to operate ("I want to be well placed with [the ministry]") (p.32) – this is bolstered by a recent study of de Krom (2017), who found that the principle motivation for farmers participating in regionalized AES in Flanders was securing future licence to operate by appeasing the authorities.

Morris (2006) interviewed 173 English farmers – half of which were participants of the CSS and the other half of which were participants of the ESA scheme. Following the theory of 'knowledge culture'[9] put forth by Tsouvalis and co-authors (2000), they found that the knowledge culture of farmers and that of AES officials were at odds to some degree – with some participants complaining that officials were dictatorial and dismissive of their site-specific knowledge (i.e. embodied cultural capital), and that they didn't have sufficient freedom to farm as they pleased under the specified management prescriptions. On the other hand, there was some evidence of 'exchange' between the two knowledge cultures (in Bourdieusian terms, an exchange of embodied cultural capital), with both farmers and officials coming around to the other party's way of thinking, particularly in cases in which there was very close collaboration between farmer and official, and when officials were willing to engage in open dialogue with farmers.

More recently, interviews conducted with farmers in the English Midlands (Sutherland & Darnhofer, 2012) indicated that participants of action-oriented schemes were seeing tangible results of their efforts in these schemes, and that seeing these changes (which may be regarded as objectified cultural capital) brought about favourable attitudinal changes among participants.

In another longitudinal study, Riley (2016) conducted repeat interviews with farmers in the Peak District – with 10-12 years between the first and second interview. In the intervening period, the CSS and the ESA scheme had been replaced with the Environmental Stewardship Scheme [ESS]. The authors found evidence to indicate that (i) relationships (i.e. bridging social capital) had developed between certain farmers and certain scheme officials, (ii) farmers learnt "the language of environment and conservation" (i.e. embodied cultural capital was accumulated), (iii) well-performing participants were able to demonstrate their embodied cultural capital to fellow farmers through farm-based demonstrations organized by officials, (iv) farmers' were impressed with other participants' performance (i.e. symbols of agri-environmental management had cultural value), and (v) attitudinal change with respect to environmental conservation and 'good farming' had occurred.

What is not clear from these studies is whether they caused agri-environmental management to become embedded in the farming cultures in question – whether, if the payments of these schemes ceased, the pro-environmental practices would in turn.

3.2.1.5 Ireland

In Ireland, it would appear that the mandatory educational component of a national-level action-oriented AES, REPS, contributed little to participant farmers understandings of how their farming related to environmental conservation. Aughney and Gormally (2002) interviewed participants and non-participants and found that the envionrmental awareness (embodied cultural capital) of participants was poor and only slightly better than that of non-participants. Van Rensburg and co-authors (2009) identified the same pattern among commonage sheep farmers – both REPS and non-REPS farmers had poor understanding of the environmental impacts of their activities.

3.2.1.6 Finland

In Finland, Huttunen and Peltomaa (2016) interviewed 55 farmers between 2010 and 2014 and found that national action-oriented AESs had been successful in embedding certain sustainable farming practices in farming culture, especially when implementation of the actions in question

[9] The 'knowledge culture' of a group is that group's practical understanding of the world, and particularly dictates "what counts as legitimate knowledge" (Morris, 2006, p.115).

(e.g. reduced fertilizer application) gave rise to cost savings for scheme participants (i.e. was in line with 'good farming'). However, certain agri-environmental actions remained at odds with productivist conceptions of 'good farming' and farmers disliked the lack of flexibility associated with participation in these schemes. There was evidence to suggest that farmers who participated accumulated embodied cultural capital (for example, enhanced awareness of how agricultural activities influenced soil quality). The results of this study do not indicate that participation in an action-oriented scheme fundamentally changed Finnish farmers' attitudes or values with respect to the environment, rather that farming ideals were 'widened' and 'diversified'.

3.2.1.7 Scotland and Germany

In their study on farmers in Aberdeenshire, Scotland (n=13) and Hessen, Germany (n=12), Burton et al. (2008) interviewed 8 and 5 farmers (respectively) who were participants of the regional action-oriented agri-environmental schemes. They found that the prescriptive nature of these action-oriented schemes prevented participants from demonstrating their embodied cultural capital. They concluded that "There is no need to innovate, there is no need to learn and, importantly, there is no need to discuss with other farmers innovative improvements or new ideas for increasing the conservation provision. Consequently, conservation behaviour is often of little social importance." (p.30).

3.2.2 Results-oriented Schemes

According to the website of the European Commission, results-oriented AES have been established in Ireland, England, Spain, France, Germany, the Netherlands, Sweden, Finland, Austria and Switzerland (European Commission, 2016). However, since results-oriented AES are a comparatively new feature of EU agri-environmental policy, there is less published research available on these schemes than there is on action-oriented schemes. Furthermore, much of the research that has been published on results-oriented schemes deals with the selection and validation of indicators against which to test results (Wittig et al., 2006; Runge & Osterburg, 2007; Matzdorf et al., 2008; Höft et al., 2010; Kaiser et al., 2010; Hasund, 2013), questions related to setting payments (Bertke et al., 2008; Klimek et al., 2008; Zabel & Holm-Müller, 2008; Zabel & Roe, 2009; Hasund & Johansson, 2016), and whether or not such schemes are more cost effective than conventional action-oriented schemes (Gerowitt et al., 2003; Matzdorf & Lorenz, 2010; Gibbons et al., 2011; Hasund, 2013).

Only a small body of extant literature deals with the experiences of farmers who have participated in European results-oriented schemes (Musters et al., 2002; Klimek et al., 2008; Matzdorf & Lorenz, 2010; de Sainte Marie, 2014; Fleury et al., 2015; Magda et al., 2015; Russi, 2016; Russi et al., 2016) – and most of this is focused on just two schemes (the German Baden-Württemberg scheme and the French Flowering Meadows scheme). The findings of this small body of research are presented below insofar as they relate to cultural sustainability.

3.2.2.1 Baden-Württemberg, Germany

The results-oriented scheme in Baden-Württemberg, Germany established with the objective of maintaining the species-rich grasslands of the region (Matzdorf & Lorenz, 2010). Many of the farmers who participated in the scheme gained botanical knowledge (embodied cultural capital) through learning to identify the scheme's plant species indicators (Matzdorf & Lorenz, 2010) and this has been regarded as the major achievement of the scheme (Russi, 2016). However, since the objective of the scheme was maintaining the ecological integrity of grassland (rather than enhancing it), there was not a huge amount of scope for farmers to change their practices, and thus, not much scope for farmers to 'innovate' and demonstrate their embodied cultural capital through participating (Russi et al., 2016). The introduction of a 'meadow championship'

competition for scheme participants (Russi et al., 2016) may have provided opportunities for farmers to demonstrate their embodied cultural capital and may have provided formal acknowledgement of participants' embodied cultural capital (institutionalised cultural capital) in the form of awards, although this is not evident from the literature. Matzdorf & Lorenz' surveys of participants indicated that since attitudes towards conservation were already favourable among those who had decided to sign up prior to their participation, the process of being engaged in the scheme did not prompt substantial attitudinal changes from the baseline level.

3.2.2.2 'Flowering Meadows', France

The French 'Flowering Meadows' results-oriented scheme (*Prairies Fleuries*, in French) was established in 2007 (de Sainte Marie, 2015). It aims to maintain (rather than enhance) the high plant species diversity of meadows in a number of mountainous regions (de Sainte Marie, 2015). The administrators of the scheme and competition have sought to align conservationist and agricultural interests by emphasizing 'agroecological value' – the idea that a good meadow is one that is both species-rich *and* productive: "an agroecological balance must be achieved to avoid a situation in which grasslands are highly productive but of no ecological value or of considerable ecological value but not very productive." (Magda et al., 2015, p.1063). To provide an example of the logic of the scheme's administrators, in the development of the plant indicator list for the scheme itself, it was decided to include red clover (*Trifolium pratense*) despite the plant's commonness, because farmers favoured the species (which increases soil nitrogen levels) and it was thought that its inclusion might nudge farmers towards the understanding that plant biodiversity is not necessarily at odds with production goals (de Sainte Marie, 2014).

Participants of the scheme accumulated embodied cultural capital (in the form of botanical knowledge) (Fleury et al., 2015). Interviews conducted with a quarter of participants revealed that most had developed a greater interest in flowering plants, and the attitudes of some regarding the merit of wildflowers had improved (Fleury et al., 2015). Farmers appreciated the flexibility the scheme afforded them, allowing them to mow, for instance, whenever they pleased (Fleury et al., 2015).

The greatest resistance to the scheme seems to have come from conservationists and naturalists, who have struggled with the concept of 'agroecological value' and expressed concerns over the lack of management prescriptions in the scheme, and believe the payment threshold of 4 species is too low (de Sainte Marie, 2014; Fleury et al., 2015; Magda et al., 2015). It is true that the environmental benefits of the scheme have been limited by the fact that the vast majority of its participants (35 out of 39) made no changes to their management practices under the scheme (Fleury et al., 2015).

Like the scheme in Baden-Württemberg, the administrators of 'Flowering Meadows' decided to use an annual competition to motivate the scheme's participants and to 'create an audience' among the general public for agri-environmental goods (Magda et al., 2015). Each region has its own competition, and since 2014, national awards have been held at the prestigious General Agricultural Competition in Paris (Fleury et al., 2015; Magda et al., 2015). Thus, the participants have been given an elevated platform on which to demonstrate their embodied cultural capital, if they wish to, and have the opportunity to have their embodied cultural capital institutionalised through winning awards.

While there is no empirical evidence to indicate whether or not bonding social capital was accumulated among scheme participants, one may speculate that involvement in the voluntary competitive element of the scheme might provide farmers with an opportunity to develop new acquaintances and friendships with fellow farmers and non-farmers alike.

Whether or not participants would be willing to continue to manage their meadows as they do without agri-environmental payments is unknown.

3.2.2.3 The Netherlands

In the Netherlands, Musters et al. (2002) established a results-oriented AES aimed at promoting successful breeding among meadowland birds, in which farmers were paid per clutch of eggs identified in their meadows. They found that participants were good at identifying clutches to begin with and became significantly better (7% greater success rate) at identifying clutches in just one year of participations, indicating that farmers had accumulated embodied cultural capital (knowledge about meadowbird egg clutches).

3.2.2.4 Lower Saxony, Germany

In Lower Saxony, in Germany, Klimek et al. (2008) established a results-oriented AES aimed at promoting the delivery of grassland ecosystem services. The agri-environmental payments were set using auctions, in which farmers bid for year-long contracts. The rate of compliance with contracts increased from 85% in the first year to 90% in the second year, suggesting that farmers in the region may have learnt better how to deliver the stipulated agri-environmental goods over time – in other words, embodied cultural capital was accumulated. However, it is not clear whether or to what degree the difference in compliance was a result of other factors (e.g. different weather conditions from one year to the next, or more knowledgeable farmers winning more contracts in the second year).

3.2.3 Conclusion

It is not possible to conclude that either the action-oriented or results-oriented approach is culturally sustainable or vice versa since. As this literature shows, there is insufficient evidence regarding farmers' post-AES management practices. While there are examples (among types groups of AES) to indicate that attitudinal change had occurred, and that participants were able to demonstrate and accumulate cultural capital, it is generally unclear whether or to what degree this directly resulted in durable behavioural change, if at all.

A general trend which emerges is that it is often reported that participants of results-oriented schemes accumulate substantial embodied cultural capital through participation (Musters et al., 2002; Matzdorf & Lorenz, 2010; Fleury et al., 2015) while the opposite is the case for action-oriented schemes (Aughney & Gormally, 2002; Herzon & Mikk, 2007; van Rensburg et al., 2009). It may be that results-oriented schemes provide a superior learning experience for farmers but since there is no common metric with which to compare these results, it is not possible to say conclusively that this is the case. Even if it were, the results of Herzon & Mikk (2007) suggest that pro-environmental knowledge alone may not lead to pro-environmental behaviour in farmers so the accumulation of embodied cultural capital may not have a strong link with cultural sustainability.

These results would support the assertions of Burton and colleagues (Burton et al., 2008; Burton & Paragahawewa, 2011) that when action-oriented schemes quash participant farmers' embodied cultural capital and/or encourage them to farm in a way that contravenes with productivity, they tend not to respond positively and the possibility of cultural sustainability may be thus undercut (Morris, 2006; Schenk et al., 2007; Deuffic & Candau, 2016).

These findings underscore the need for research on cultural sustainability and how schemes can be designed to achieve it, particularly longitudinal studies which link farmers' experiences while participating in AESs with their management practices post-participation.

4 Results

4.1 Cultural Capital

4.1.1 Embodied Cultural Capital

All 14 respondents agreed (one strongly) that they had gained new knowledge through participating in the Shannon Callows RBAPS scheme (Figure 4-1 (a)). The majority of respondents (10/14) also agreed that they had learnt a skill (Figure 4-1 (b)) through being involved – 7 agreed somewhat and 3 agreed strongly. Two respondents were ambivalent and a futher two subjects disagreed somewhat. All ten subjects who felt that they had learnt a skill went on to name that skill as wildflower identification (or some equivalent term).

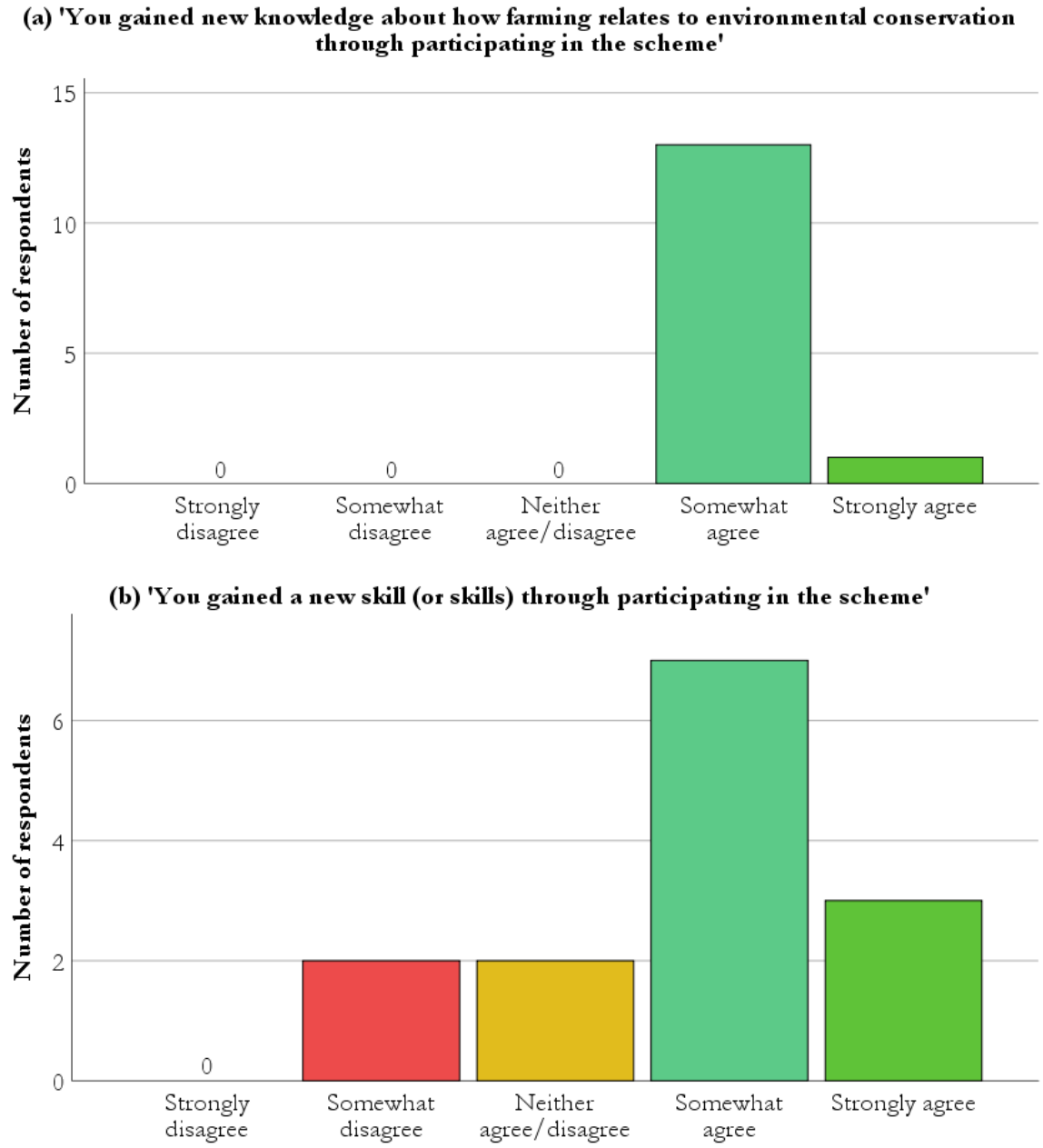

Figure 4-1. Farmers' responses when asked whether they agreed that they had (a) gained new knowledge and (b) new skill(s) through participating in the Shannon Callows RBAPS scheme.

Comments of survey resondents supported the finding that learning had occurred. Farmer 12 remarked that since he'd learnt to identify wildflowers, he'd been "eyeing out" plants all over the farm. Farmer 4 emphasised that "awareness" gained was the main benefit of the scheme for her. She had not been aware that there were ground-nesting birds on her land before participating. Once she was made aware that there was "a bird down there", she wanted to do what she could to protect it. Farmer 9 stated that he'd been noticing birds and plants on his land more since participating in the RBAPS scheme. Farmers 5 and 7 both commented that what they had previously considered to be 'weeds', they now understood to be indicators of the quality of a meadow. Farmers 9 and 14 stated that they felt "wiser" as a result of their involvement in the scheme. Farmer 8 is "more conscious" of wildlife now and commented that "you wouldn't learn as much" in GLAS.

Reinforcing the findings of the survey, all interviewees believed that they had gained new knowledge through being involved in the RBAP scheme. The responses of the interviewees to the educational component of the scheme was overwhelmingly positive. They described learning about the plant species of the Callows, and the particulars of the scheme itself at two educational events organized by scheme officials (one in each year). The interviewees described an event with a classroom-based session in the morning, at which they received a "full run-down" (Farmer 6) of the scheme, followed by a practical demonstration on a callow in the townland of Clonmacnoise. Two interviewees described how the educational aspect of the scheme transformed the way they viewed the flora of the callows. What they had regarded as nuisance weeds they now regarded as wildflowers.

I suppose before this I wouldn't really have passed too much remarks on [the wildflowers]. They were there. As I say, to us they were probably 'dirt' we'd call them. – Farmer 1

We were probably ignorant of some of the facts that's in the Callows […] it did make us wake up and see what – some of the flowers that were in [the meadows] for years and we were calling them 'weeds' [laughing]. I'll be honest about it, I actually said that. We were ignorant of it. And that was every one of us that I know that was in [the scheme]. We all held up our hand and said 'yes' – we were a little bit of… not knowing what was happening, really. Which is great. It makes you more conscious now when you walk on your land at home. – Farmer 2

For Farmer 3, who seemed to have had a higher baseline level of ecological knowledge than some of his fellow scheme participants, the scheme served to deepen his understanding.

Well, I didn't realise there was so many species of plants in the callows. Also that the callows weren't all the same. There's different callows. Different plants grow on different parts of the callow. – Farmer 3

Interviewees described the educational component as "nice" (Farmer 6), "interesting" (Farmers 3 and 6), "very well done" (Farmer 3), a "great help" (Farmer 2) and "very well presented" (Farmer 2) and complimented the scheme officials on how they had presented the new information using photographs, practical field-based explanations and repetition. Even farmers who'd expressed cynicism towards other aspects of the scheme were complimentary of the educational component.

Based on this evidence, it is fair to deduce that the majority (if not all) of scheme participants gained embodied cultural capital (knowledge and/or skills related to environmental conservation) through being involved in the Shannon Callows scheme. Whether participants had the opportunity to demonstrate their own embodied cultural capital is another matter.

When asked to what degree they'd relied on their own knowledge and skills (as opposed to those of the scheme officials) in deciding how to manage their RBAPS plots, none of the respondents felt that they had relied entirely on their own knowledge/skills. The majority (12/14 farmers) felt that they had relied largely or entirely on the direction of RBAPS officials to establish how to deliver the stipulated environmental results. A further two respondents felt that they had relied 'to some extent' on the direction of scheme officials.

There was also no evidence from the interviews to indicate that scheme participants had used their embodied cultural capital to innovate in the delivery of a superior flood meadow. While two 'innovations' were mentioned during the interviews: plans to (i) re-seed the plots with hay brought in from species-rich meadows ("[Scheme official] was thinking about bringing seeds in and all that you know" – Farmer 3), and (ii) carry out two mowings (as opposed to the usual one) in a single season ("They were hoping maybe that if people could cut [the callows] earlier that they could cut a second time. I think [scheme official] must have said that." – Farmer 1); these were ideas that came from scheme officials themselves and not from the participants.

It would therefore appear that scheme participants had little opportunity to demonstrate their own embodied cultural capital in the delivery of agri-environmental goods.

4.1.2 Objectified Cultural Capital

To establish whether (and to what degree) objectified cultural capital (physical evidence of the delivery of an enhanced agri-environmental good) was accumulated by scheme participants, survey respondents were asked (i) whether they had seen evidence of an environmental improvement on the plots entered into the scheme by themselves and/or others.

The majority of survey respondents (9/14) stated that they had not observed any environmental improvements on the plots that they had entered into the scheme over the duration of their participation. A number of potential reasons for this lack of change emerged during the surveys and interviews. First, and perhaps most importantly, is the fact that participants reported making little or no change to their management of the meadow plots under the scheme. No single respondents reported changing their practices to "a large degree". Half (7 respondents) reported making no changes. The other reported making "small changes". The very short duration of the scheme (just two years, with the majority of farmers participating for just one year) was also pointed to by a survey respondent as a potential reason for a lack of observable change. Two further respondents attributed the stasis to inclement weather, which, they said, scuppered scheme officials' plans (as mentioned in the previous section) to re-seed plots with species-rich hay.

However, that was not the case for all respondents. Five farmers stated that they had seen environmental improvements ("more flowers") on their meadows. It is worth noting, at the same time, that two farmers who believed they had seen an improvement had also indicated that they had made no changes in their management of the land in question (Farmers 8 and 14) which would suggest the possibility that these respondents thought they had seen more flowers simply because they could *identify* more flowers, when in reality no improvement had occurred. Two of those who reported seeing a difference stated that they had ceased the application of fertilisers under the scheme. Another had made no changes besides adhering to the mowing restriction.

Farmer 3 was the only interviewee who reported seeing a change in his RBAPS plots. He was also the only interviewee (although not the only participant) who had made substantial changes in his management practices, having ceased the application of fertilisers on the plot in addition to implementing the mowing restriction. This year (2018), he purportedly observed an increase

in the abundance of wildflowers on the meadow ("[Our meadows] now have caught up, there's more stuff in them"), an improvement he attributes to the combined influence of the changes made under RBAPS and the particularly sunny summer. Additionally, he described how his brother (a non-participant) had observed the difference in his callows and had been impressed. He was even prompted by what he saw to change his own management practices.

> *He has a lot [of land] in the callow as well and when he seen how mine turned out, he didn't [apply agrochemicals]. He followed me then.* – Farmer 3

Farmer 3 described how it was meaningful for him to observe the fruits of his labour and emphasised the importance for farmers to see results of their efforts in AES.

> … *it should be easily attainable. It's good to see a result. Seeing is believing.* – Farmer 3

When asked about the meadows of other participants, 8 out of 14 survey respondents stated that they had not seen environmental improvements. The predominant explanation given for this answer was that the respondent simply had not seen the land of other participants in the scheme or had only seen such land once so couldn't judge whether a change had occurred. Six out of 14 farmers believed they had seen an improvement on the land of one or more other participant in the scheme. It is important to note at this stage, that since survey respondents were not asked to identify the 'other farmers' on whose land they'd seen a change, it is possible that a few were referring to the same land. Therefore, it is not necessarily the case that environmental improvements were delivered on the meadows of six participants.

When asked whether they had been impressed by the achievements of the participants in question, five out of the six answered in the affirmative. The remaining farmer (Farmer 10) indicated that he didn't believe the land owner in question was responsible for the positive change. When asked if he was impressed with that farmer's acheivements he responded, "If you could say he achieved it", implying that it was the efforts of the scheme officials – and not the farmer in question – that had delivered the agri-environmental results. This underlines the findings reported in the previous section that participants seemed to have had little freedom to demonstrate their own embodied cultural capital.

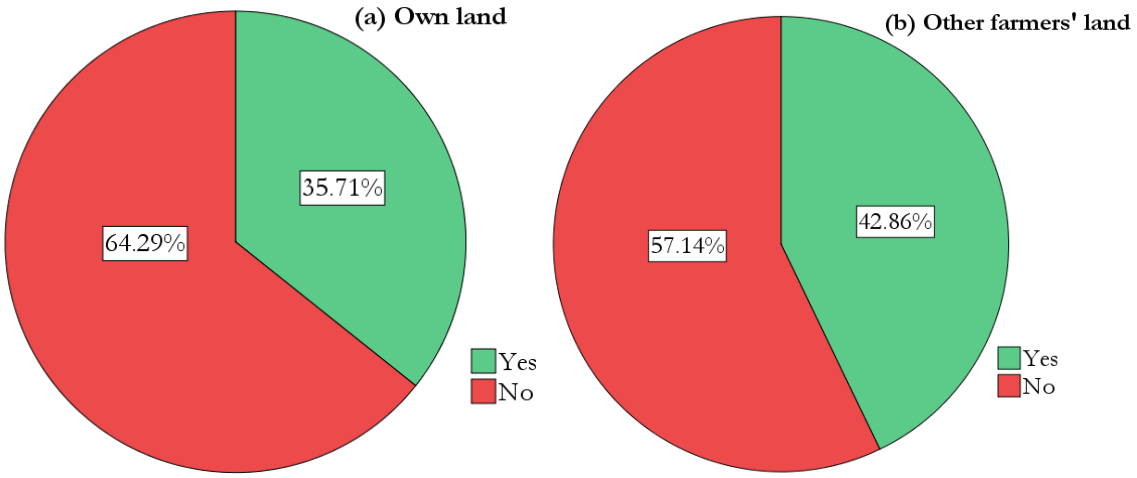

Figure 4-2. Farmers' responses when asked whether they had seen environmental improvements on (a) the land that they had entered into the Shannon Callows RBAPS scheme, and (b) the land that other farmers had entered into the scheme.

Comments made by survey respondents and interviewees, coupled with the fact that participants were generally impressed with the improvements which they did see, would indicate that the wildflowers of the Callows may have cultural value among the farmers of the region. Farmer 11, for instance, pointed out that it was "Lovely to see" all of the "different colour flowers" on the high-scoring meadow in the townland of Clonmacnoise, while Farmer 3 had commented of the same plot that "everyone was admiring this, saying 'oh my God, that was like years ago". However, there was also some evidence that, as cultural symbols, wildflowers bore a negative connotation in the mind of productivity-oriented farmers. Farmer 1, for example, described how he had previously referred to the flowers as "dirt" simply because they were "not grass" (Farmer 1).

In short, the majority of farmers who participated in the Shannon Callows RBAPS scheme did not observe an accumulation of objectified cultural capital on their plots – that is to say, tangible physical evidence that they had used their own embodied cultural capital to deliver a flood meadow of superior ecological integrity. However, a minority of participants did report seeing evidence of the delivery of a superior agri-environmental good on their own land, and on the land of other farmers, and generally speaking, responded positively to what they saw, indicating that the appearance of a species-rich meadow is not totally at odds with regional understandings of what constitutes 'good farming'. The account of Farmer 3 points to the importance for farmers to observe tangible positive results due to their efforts in AESs.

4.1.3 Action-oriented AES and Cultural Capital

Since this was not a comparative study, action-oriented schemes were only touched upon briefly during interviews but some evidence was found to indicate that the top-down prescriptive nature of such schemes may be odds with farming cultures. One interviewee (Farmer 2) expressed an objection to the national agri-environmental scheme, GLAS on the basis that it disregards the site-specific embodied cultural capital of agriculturalists. He takes issue with the fact that that decisions have been made about scheme design by people "sitting down at a desk" who had "never been on a farm". He disliked the dictatorial nature of the scheme and complained that its officials had "the least respect" for farmers.

… you nearly need permission to go out and walk your own land, they're gone that strict. I'm not a believer in that. If that's where farming is gone, they can have it. […] I don't like anyone coming along telling me what to do. It's grand to be able to say 'yes, this would be a good idea' but like, when you're in GLAS – ! – Farmer 2

Interviewees and survey respondents expressed a number of opinions on Irish AESs (REPS, GLAS, the Shannon Callows RBAPS scheme and the NPWS's CFPS) that were considered to be outside the scope of this research. Since there is limited data on Irish farmers' perceptions of AESs and, as such, this information may be of value to policy-makers, it has been compiled in a table in the Appendices (Appendix E).

4.2 Social Capital

4.2.1 Bonding Social Capital

The majority of survey respondents (10/14) felt they had developed acquaintances and/or friendships with other farmers through their involvement in the scheme (Figure 4-3 (a)). All of the interviewees believed the scheme had provided an opportunity for socialisation (to some degree, at least), and described meeting other participants of the scheme at one or more of the aforementioned educational events ("we all met there in John Ryan's pub in Shannonbridge and had a cup of tea and that before we went down to Clonmacnoise" – Farmer 11).

These events seemed to have served as a valuable social outlet for some individuals, with Farmer 8 describing the participants as a "very nice crowd" and Farmer 12 remarking that he'd met farmers from other counties. For others, who were already well connected ("I'd have known a lot of the lads" – Farmer 11), the scheme seems to have been of lesser importance in this respect. Opinions of survey respondents were divided when asked whether they felt they'd become better connected in the local farming community through participating. Six out of 14 farmers disagreed somewhat and another 6 agreed somewhat. One individual neither agreed nor disagreed, and another declined to answer. During the interviews, the different accounts of Farmers 6 and 2 reinforced this finding that the social aspect of the scheme was of greater importance for some farmers than others:

… the farmers I did meet I'd never met before. […] And actually I met a fella down there, he was doing the scheme, and he actually became, he was an agricultural consultant so he does my work now for GLAS and single farm payments and stuff like that. So I was actually delighted I met him now. – Farmer 6

Interviewer: *Do you think there was any opportunity for socialisation? I know there was a couple of demos that were organised. Do you think there was a social outlet involved in it?*
Farmer 2: *Yeah, probably a little bit but I wouldn't be banging a drum about it.*

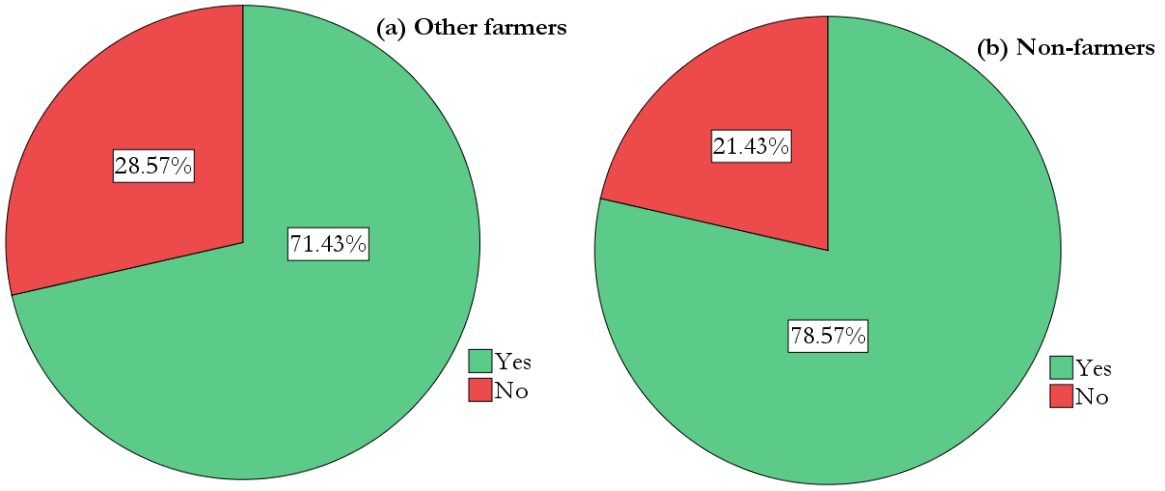

Figure 4-3. Farmers' responses when asked whether they had developed new acquaintances and/or friendships with (a) other farmers and (b) non-farmers through participating in the Shannon Callows RBAPS scheme.

Farmer 3 described how he had encouraged some of his neighbours to enrol in the scheme and how, for those who did participate, the scheme provided a talking a point.

The neighbours taking part is a nice thing as well. They'd a bit of communication – 'can we cut it? When can we cut the callow?'. It's good for everyone to be involved in something like that. Keeps your finger on the pulse, as I say. – Farmer 3

Not all participants, however, had neighbouring farmers who were participants. The comments of some interviewees indicated that the value of the scheme as a social outlet may have been limited by the fact that there were so few participants overall ("Most of the neighbours, sure, they're in GLAS" – Farmer 6), and since not all participants attended all of the events ("there wasn't too many [at] it either time that I did it" – Farmer 1). One interviewee (Farmer 2) complained that for farmers like himself, who have been engaged in off-farm work, it was not always possible to make it to scheme events.

The interviewees were asked whether they believed that participating in RBAPS could have drawn criticism or judgement from other local farmers who weren't involved (i.e. a loss of bonding social capital). All but one individual (Farmer 3) refuted the idea that they would be criticised. Some farmers found the notion comical. Farmer 2 laughed and quipped, "we're not that bad around here", and Farmer 11 replied, "It's your own ground, you can do what you like, within the law, like. Ah, no, no one would pass any remarks at all, like". Farmer 3, on the other hand, believed that non-participants would ("of course") be critical of RBAPS participants, and reiterated the importance for farmers to see positive results of an AES:

> *You know nothing about a scheme unless you take part in it yourself, and they call it 'the scheme for the flowers', you know, they didn't know. They haven't an iota. A farmer is very dismissive unless he takes part himself.* – Farmer 3

To summarise, the Shannon Callows scheme certainly provided participants with an opportunity to accumulate bonding social capital within the regional farming community. Furthermore, it does not appear that farmers who participated in the scheme faced much risk of losing bonding social capital among non-participants. However, the degree to which bonding social capital was actually accumulated seems to have differed from farmer to farmer, and the value of the scheme in this respect may have been limited by the low number of participants overall and incomplete attendance at scheme events.

4.2.2 Bridging Social Capital

Most survey respondents (11/14) also felt they had developed acquaintances or friendships with non-farmers through participating in the scheme (Figure 4-3 (b)). When asked to describe these non-farming individuals, all farmers named one or more scheme official, but nobody besides.

Social interactions with scheme officials seem to have been largely positive, with farmers describing officials as "grand" (Farmer 11), "very helpful" (Farmer 3), "like-minded" (Farmer 3) and "very friendly" (Farmer 3), but officials were seldom mentioned in the context of socialisation and for this reason, the researcher feels that bridging social capital may have been of lesser importance to the interviewees than bonding social capital.

When survey participants were asked about their motivations for participating in the Shannon Callows scheme, wishes to appease authorities and/or secure social licence to operate were never mentioned.

In short, bridging social capital with scheme officials was accumulated by participants and relations between participants and officials seem to have been positive. However, participants did not seem to have been especially preoccupied with or motivated by a desire to accumulate bridging social capital.

4.3 Attitudinal and Behavioural Change

4.3.1 Survey Results

The results from the survey regarding farmers' self-reported attitudinal change were overwhelmingly positive. All but one respondent (13/14) agreed that at the time of the survey, they cared more about environmental conservation than they had before they participated in the scheme. Additionally, all but two respondents (12/14) agreed that participating in the scheme had changed what 'good farming' meant to them.

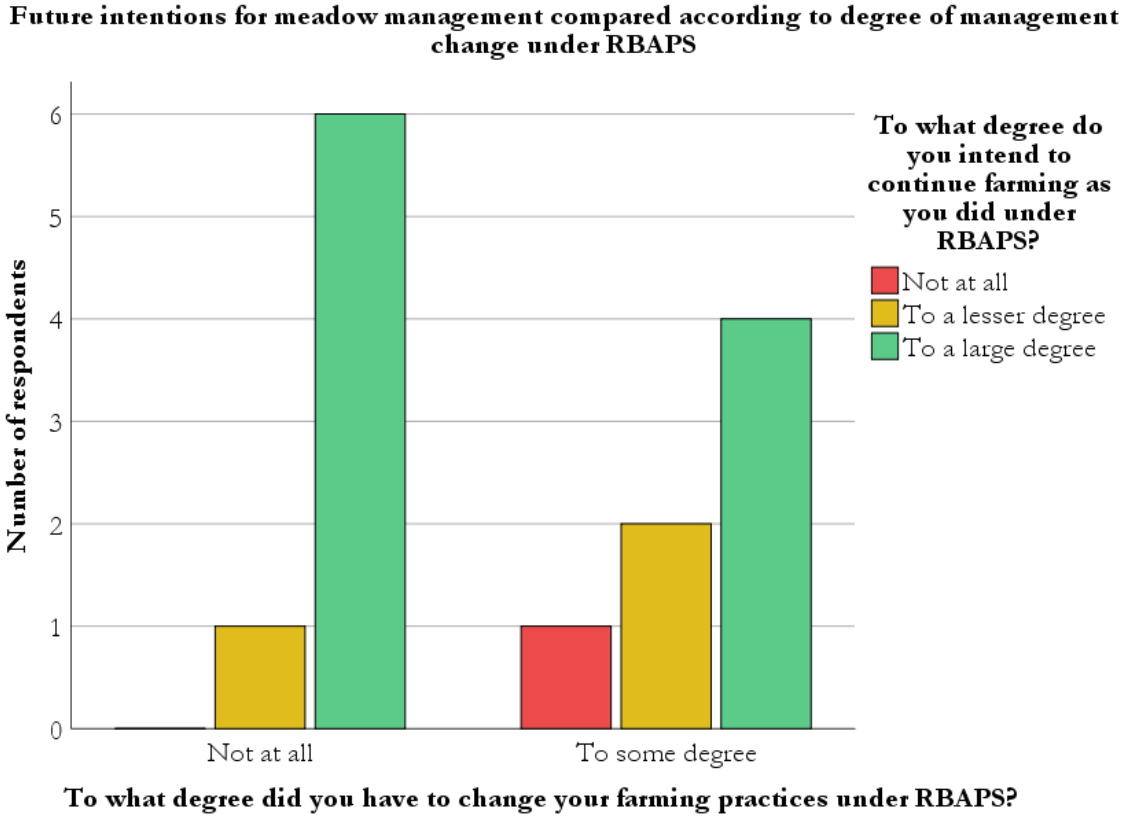

Figure 4-4. Farmers' responses when asked to what degree they intended to continue to farm as they had under the Shannon Callows RBAPS scheme, divided according to farmers' self-reported degree of change in management practice under the scheme.

Results regarding farmers' intentions for future land management were also largely positive, although, as will be explained, may not be as meaningful as they appear upon first assessment. The majority of farmers surveyed (10/14) expressed an intention to continue farming as they had under the scheme. Among them was Farmer 4. She was asked to delay the mowing of her meadow in order to encourage the survival of a ground nesting bird. Now that she's aware that there may be birds nesting in her callow, she says, she will make efforts to protect them in future.

Three respondents indicated that they would continue to farm as they had under the scheme, but to a lesser degree. Farmer 10, for example, stated that, as a participant of RBAPS, he had had to reduce the stocking density on his scheme plot, and abide by the mowing date restriction. Now that the scheme is over, he intends to increase the stocking density and mow earlier in the year – although not to the extent that he did prior to the scheme. Only one respondent (Farmer 2) stated that he did not intend to continue to farm as he had under RBAPS to any degree, remarking that, "with no incentives […] we'll drift back to our own little ways". A number of

survey respondents expressed (of their own volition) their disappointment that the scheme had ended.

These results would appear to be very positive until we consider that over half of subjects who stated that they would continue to farm as they had under RBAPS (6/10) also stated that they did not have to change their management practices at all under the scheme (Figure 4-4). Furthermore, those individuals who stated that they had made changes to their management practices were more likely to state that they did not intend to continue farming as they had under the scheme. Even so, over half of those who had changed their practices did express an intention to continue with their new management regimes. Thus, while only four participants expressed an intention to intensify their management practices post-RBAPS, an equally small number of participants made a sustained net improvement in practices thanks to the scheme. In light of these results, generally speaking, it would not appear that the scheme was successful in embedding extensive meadowland management practices in the regional farming culture.

4.3.2 Opinions of Interviewees

In agreement with the survey results, interviewees generally expressed that their attitudes towards the wildflowers in their meadows had changed by virtue of their participation in the scheme – 'weeds' and 'dirt' were now 'wildflowers'. The degree to which meaningful attitudinal change regarding farming and conservation had occurred, however, and whether this attitudinal change was reflected in future intentions for land management, differed from one interviewed farmer to the next. As will be shown, the attitudes of productivist, profit-oriented farmers seem to have remained largely unchanged, while those interviewees who displayed environmentally favourable attitudes had probably been of that mind prior to participation. The accounts of interviewees also revealed how a number of acceptability constraints – environmental risk, distrust of authorities and the impracticality of scheme implementation – had negatively affected participants attitudes towards the Shannon Callows RBAPS scheme (and in some cases, other AESs). A case-by-case analysis is presented below.

4.3.2.1 Farmer 1

Farmer 1 is financially motivated, stating that "if you wouldn't be paid, you wouldn't be in [the scheme]". During the survey, he cited financial reasons for enrolling (see Appendix C for a complete list of survey respondents' cited motivations for participation). He stated that his attitude towards environmental conservation changed "a small bit" through participating in the RBAPS scheme. Prior to participating, he hadn't applied agrochemicals to his meadows for a number of years, and the only difference he had to make to his management practices under the scheme was to comply with the mowing restriction. In his opinion, seasonal flooding renders the application of pesticide sprays "a waste of time" and he believes applying fertiliser causes the hay to become dominated by reeds, coarse and unpalatable to cattle ("too strong"). While he stated that he found the RBAPS mowing restrictions to be "a bit too late" in the year, he also said that he 'presumes' he will manage the land as he did under the scheme going forward. However, he also indicated that if it were not for the limits imposed by the seasonal flooding, he would be intensifying his management practices. In short, his extensive land management is dictated by environmental constraints rather than any social influences.

4.3.2.2 Farmer 6

Farmer 6 expressed a strong focus on productivity and a financial motivation. Productivity is his primary concern ("You're dependent on your land more so for productivity as well as the GLAS"). Since the first iteration of REPS was implemented, he has been in an AES every year, but participates with a bare minimum level of commitment. He participated in RBAPS for one year for financial reasons and because, at that time, no other AES was available to him

("[RBAPS] wouldn't be the scheme of my choice […] I would seek the benefit of GLAS. GLAS'd be a better scheme for me. D'you know, I'd be able to harvest more from it – financially"). He participated in RBAPS under the condition that he could leave it again in the second year and enrol in the more financially lucrative GLAS. Participation in the Shannon Callows RBAPS scheme did not seem to have diminished his strong financial orientation. While he admitted that he'd learnt "a lot" from being involved in RBAPS, his attitude towards the scheme was somewhat cynical ("it's not a scheme I think that does anything for the environment […] It's more got to do with just living with nature and being environmentally conscious") and he did not believe that his attitude towards conservation had changed from being in it ("I wouldn't say it did, no."). The only management change that Farmer 6 had made under the scheme was to comply with the mowing restricition. Since he had so little to do under the scheme, he described the payment as being like "mana from heaven". He will continue to have a mowing restriction (1st of July) as a member of GLAS. He indicated that he would only engage in RBAPS-like measures in future if they were incorporated into a more financially viable national-level scheme, like GLAS. Thus, Farmer 6 will continue to manage the land as he did under the RBAPS scheme for financial reasons and not out of a desire to gain cultural or social capital.

4.3.2.3 Farmer 2

During the survey, Farmer 2 cited an interest in wildlife and a desire to see it conserved as his primary motivation for participating in the RBAPS scheme. He wouldn't have participated out of a financial motivation, he said, because the payment "wasn't a lot" and only just covered his costs. Farmer 2 agreed that his attitude has changed and stated that he is "more conscious", having participated in the scheme. When asked his opinion of GLAS, he complained that it was "getting you to do things that you should've done yourself" indicating a sense of moral obligation to undertake some degree of unsubsidised agri-environmental management. Like Farmer 1, he was not applying agrochemicals to the land before he entered the scheme, and the only change he made was to comply with the mowing restriction. Despite stating during the survey that he would not continue to manage the land as he had under the scheme, during the interview he indicated that in future years he would continue to delay mowing if he became aware there was a ground nesting bird in his callows, but pointed out that he would "be like that anyway".

Farmer 2 complained that environmental risk factors out of farmers' control (stochastic weather events and the behaviour of neighbouring farmers) were poorly accounted for under the Shannon Callows RBAPS scheme.

One of the biggest problems I found and no one ever mentioned it, I brought it up at a meeting and was kind of looked at as if I'd three heads. […] and you can pick up forty folders going to any [RBAPS] meetings – but one thing wouldn't be in it: weather. That has to be certain as far as I'm concerned, if there's anything ever like [RBAPS] to be done again, say ye'd work around the weather, because the whole world is working around it at the moment. – Farmer 2

He explained how another factor "out of everyone's control" – a neighbour's use of agrochemicals – could also affect the ecological integrity of the meadow plot(s) of a participant. While he was "lucky" that he did not have this problem with his neighbours, he pointed out that "That can happen" to scheme participants.

The opinions expressed by Farmer 2 also highlighted how farmers' distrust of authorities might colour their perception of an AES. He expressed a sense of resentment that decisions affecting Irish farmers were being made by remote authorities at the EU level with, in his opinion, little understanding of Irish farming ("If Europe says 'your cattle should be out on that field' then

come and look at that field."). He felt that representatives in Brussels regarded Irish farmers like himself merely as "little dots". His cynicism regarding agri-environmental policy had clearly influenced his perception of the RBAPS scheme (and indeed, GLAS), which he believed only existed as perfunctory box-ticking exercises, to signal to the European Commission that something was being done about rural environmental problems, and not with the intention of delivering meaningful environmental improvements:

What [RBAPS] is really about it is nodding to Europe, saying 'yes, we're doing something about it' […] It wasn't really, at the end of the day, about the flowers that's in the callows - Farmer 2

During the survey, he stated that he'd felt this disillusionment with the scheme from the outset.

4.3.2.4 Farmer 11

Farmer 11 indicated that he'd decided to sign up for the RBAPS scheme out of curiosity. While he agreed that his attitude towards environmental conservation had changed through participating in the scheme, he had an obvious pre-existing interest in nature and spoke, of his own accord and often, about wildlife (past and present) on his farm. He recounted a number of occasions on which he had undertaken unsubsidised efforts to promote the survival of birds on his land, revealing an obvious regard for bird life.

I was topping and I was delighted to see a hen pheasant and seven little lads out. […] Seven chicks, aye. And if that was topped earlier they'd probably have been killed, you know. If I see them in the field, if I see the pheasant, I'd stop mowing and leave it there, leave them after me, and I'd always do that, like, and move away and leave it and go back and after a couple of weeks 'til they'd be gone. – Farmer 11

I seen a curlew one day too. […] And I couldn't believe it, like, because curlews are very scarce now. I was shaking bag manure. 'Twas last spring. And the next thing she ran across. […] I'd say she had a nest somewhere there. I searched and searched and couldn't get it. […] I didn't spread any manure just in that area then. – Farmer 11

The accounts of Farmer 11 highlighted how industrialisation of farming systems and changes to the fabric of Irish rural life have made extensification a major challenge. He explained how the act of making hay has changed dramatically over his lifetime. As he remembers it, when he was a young man, it took two or three months of mowing with a manual, horse-drawn "Pierce No. 8" machine to save all of the hay on a farm. Nowadays, he explained, mowing is often carried out by contractors with modern machinery in a fraction of the time it once took ("you could have fifty acre of stuff there now and 'twould be in [the shed] in a couple hour"). He went on to describe how it is no longer feasible for every farmer to do his own mowing since there is insufficient manpower available locally ("There isn't help on the land anyway now to do it. Lot of young fellas out and all have jobs, like"). He pointed out that under RBAPS, a mowing contractor had to be hired in on two separate occasions – once, early in the summer, to cut most of the hay on the farm, and again later in the season, after the specified mowing date, to cut the hay on the RBAPS plot. The farmer was "not too pleased" about this inconvenience. As an elderly man with little to no help on the farm, he finds it "handiest" to hire a contractor to save his hay early in the summer on a single day, and to minimise hassle, intends to use this approach in future. During the survey, Farmer 11 explained how his age and the fact that he can't find competent on-farm help has made managing the farm a struggle in recent years. He expressed an intention to change his management practices in order to make life easier for himself. For these reasons, and in spite of his fondness for wild birds, Farmer 11 finds the mowing restrictions of AESs to be too impractical and burdensome and does not intend to enrol in any AESs or otherwise delay mowing in the years to come. This is a stronger response

than that which he made during the survey, in which he stated that he would continue to manage the land as he had under RBAPS, although to a lesser degree.

You get enough hardship without looking for it, you know? […] You see the bloody thing about all that is it's labour intensive and you can't cut it when you want to […] The farmers say 'ah, to heck with it, it wouldn't make sense'. […] I like to do everything I can for the environment as well, like, even [if] I'm not in GLAS. It just doesn't make sense to me. The farmer then next door, it makes sense to him because it's different circumstances, d'you know? – Farmer 11

The farming world described by the interviewee is one which, over his lifetime, has been (and continues to be) defined by change ("All changing the whole time"). In his youth, the farms in the Shannon Callows were diversified and managed extensively, with *meitheals*[10] of young men helping each other with farm work ("We had hens, ducks, geese, turkeys, sheep and pigs, barley […], oats and beet, spuds, mangles, turnips. All them things, all gone."). By the early 1970s, the time of Ireland's accession into the European community, the productivity ethos of the CAP had already taken hold ("in 1974, I done a course in agriculture there in Athlone and if you were able to make two blades of grass grow where there was only one, you were a 'good farmer'"). Now, he explains, farmers are receiving mixed messages, with one group espousing the productivist paradigm of 'good farming', and another condemning it ("In farming, there's one crowd praising us for it, you know, 'you have the place looking well – no dirt, no nettles, no docks, no thistles', and another crowd that's against it, you know"). Thus, while Farmer 11 fondly remembers the callows of his youth "teeming with wildlife", the world of farming has changed irrevocably and, as he sees it, to do things more extensively now "wouldn't make sense".

Comments made by Farmer 11 during the survey indicated that, in spite of its output-oriented nature, the objectives of the RBAPS scheme were considered to be at odds with conventional productivity objectives. He was quick to point out that a farmer with a high-scoring species-rich meadow in Clonmacnoise would have diminished yields ("he wouldn't have had as many bales") since he wasn't applying artificial fertilisers to the land.

Like Farmer 2 (and indeed, all five interviewees), he complained about the influence of environmental risk factors. As he saw it, the risk of early summer flooding in the Shannon Callows rendered plans of scheme officials to re-seed the meadows ill-advised.

What they were trying to do was 'impossible', I call it. Because you get seeds and bring them from… and then to spread them out on the callow so these flowers would be on […] The next thing the flood would come in, was in on top of it – that height of water. And sure, no seeds, any seeds won't survive when it's flooded. If you plant barley, oats – any crop – if it's flooded it's going to finish it. – Farmer 11

He also pointed out how that pre-existing conditions on the meadows (particularly the status of the wildflower seedbank) was largely out of farmers' control.

If they already have the flowers, it'd be a great scheme. Because, like, you have to do nothing, only just leave them. But to get them back in if they're gone out – that would be a problem. […] They already have the

[10] A *meitheal* (from the Irish for 'working party' (Ó Dónaill, 1977)) is a term used to describe a cooperative group of farmers who historically (and to a lesser degree in modern times) have come together to carry out labour-intensive farm work during busy periods. Modern changes in farming systems – industrialisation and mechanisation – have diminished the reliance on cooperative labour in Ireland. (Macken-Walsh, 2010).

flowers in their ground, like. So it's only a matter of not spraying them. But to get them – if they're killed out to get them back in! It's not a simple job. Because I don't know can it be done. – Farmer 11

These comments highlight the risk of adverse selection with such schemes. If accepted into the scheme, farmers who had meadow seedbanks in good status (species-rich) prior to participation would be eligible for high payments without having to undertake any changes in practice, while farmers with depleted seedbanks (because of prolonged intensive management or pre-existing environmental conditions on the plot, for instance) would have to undertake substantial efforts to achieve equal or lesser payment. Thus, the scheme would be more attractive to farmers who were already delivering the desired agri-environmental good (and possibly would have gone one delivering the good even without payment).

Like Farmer 2, Farmer 11 also expressed a disillusionment with EU leadership and complained that, as he sees it, their lack of context-specific knowledge has lead to the development of AESs that place impractical, nonsensical expectations on Irish farmers. He complained that when he applied for GLAS, he was told he wouldn't be allowed to sow bird forage crop all in one plot, but rather would have to spread it out over three plots on his farm. This was prohibitively inconvenient for him, and according to his understanding of birds, made no sense.

If there was feed for [birds] up there, they'd find it, like. They'd go where the feed was and they fly miles for it. But you see, do they not understand that in Brussels? – Farmer 11

To summarise, while Farmer 11 has an obvious fondness for wildlife and a sense of nostalgia for the less intensive farming life of bygone days, environmental risk factors and changes in farming systems and rural life in recent decades have rendered agri-environmental management too burdensome for an elderly man such as himself.

4.3.2.5 Farmer 3

During the survey, Farmer 3 stated that his "main motivation" for participating in the scheme was financial but pointed out that he also had an interest in environmental conservation. Indeed, a pre-existing interest in conservation was evident during the interview. The farmer stated that he would like to see the callows preserved "in perpetuity". It seems that his attitude towards conservation and agri-environmental management was already very positive prior to his involvement in RBAPS, but he agreed that it had changed through participating in the scheme.

He will continue not using agrochemicals. He doesn't "believe in [artificial fertiliser] at all" and will not use pesticide sprays because if he does, "'t'will kill everything there". As a sheep farmer, he believes that having a greater abundance of wildflowers in a meadow boosts the nutritional value of its hay.

It's very nutritious. The sheep love it. […] There seems to be more goodness in it than other types of hay, really. […] Sheep love variety. They'll eat a lot of weeds, what other [animals] won't eat. – Farmer 3

Unlike Farmer 6, Farmer 3 expressed a disdain for the single-minded pursuit of productivity and expressed a 'quality over quantity' attitude. In his view, farmers who are "only interested in volume and bulk" are misguided. To aim to have fewer hay bales of high nutritional value is the more sage approach, as he sees it. Poor quality hay, he explained, would be left uneaten by livestock, forcing a farmer to purchase supplementary feed and to spend more money overall. He also cautioned against overstocking and believes that this year's extended drought and a potential fodder crisis on the horizon will force overstocked farmers to reconsider the sustainability of their approach.

They've to take a step the other way. Big time. This year'll prove it, now, because people are heavily stocked and they don't have enough food […] Sure it's going to be a disaster. – Farmer 3

Like Farmer 11, he acknowledges the tribulations of saving hay from fragmented and flood-prone land. However, the impracticalities of agri-environmental management were not sufficient to deter Farmer 3 from planning to continue managing his callows as he did under the scheme.

As described previously, Farmer 3 was the only interviewee who reported seeing a positive change in his meadow plots over the duration of his participation. He seems to have changed his long-term practices not because of a fundamental attitudinal change (as has been shown, his attitude towards environmental conservation was already favourable and he is not especially productivity-oriented), but rather because he had seen with his own eyes that agrochemicals were not necessary to maintain the quality of his meadow. What was poignant for him, rather than being able to demonstrate his embodied cultural capital in the delivery of agri-environmental goods, was that he himself was able to see his efforts in the scheme come to fruition. As he put it himself, "Seeing is believing".

5 Discussion

In order to test the assertion of Burton & Paragahawewa (2011) that results-oriented AESs are more culturally sustainable than action-oriented schemes, this research sought to determine (i) what forms of cultural and social capital were accumulated by participants of the Shannon Callows RBAPS scheme, (ii) whether farmers were able to demonstrate their own embodied cultural capital through participation, and (iii) whether involvement in the scheme brought about meaningful attitudinal and behavioural change among its participants. It is the first study to assess the cultural sustainability of an AES, and (to the author's knowledge) the second study to assess the cultural sustainability of an environmental policy instrument. It also contributes new data to the limited body of research on results-oriented AESs in general and the even smaller body of research on Irish farmers' perceptions of AESs.

5.1 Accumulated Cultural and Social Capital – Limited Importance?

While embodied cultural capital and social capital were accumulated by scheme participants, it would not appear that either gave rise to meaningful attitudinal or behavioural change with respect to agri-environmental management.

Like the participants of the Baden-Württemberg results-oriented scheme in Germany (Matzdorf & Lorenz, 2010), while the Shannon Callows farmers accumulated embodied cultural capital by virtue of their participation – with 'weeds' transformed into 'wildflowers' in the eyes of some participants – with a few exceptions, the knowledge gained by participants did not translate into more environmentally sustainable land management intentions. This confirms assertions of Burton et al. (2008) that simply increasing environmental knowledge is not conducive of cultural sustainability and would support broader studies finding that pro-environmental behaviour is not stimulated by pro-environmental knowledge *per se* (Kempton et al., 1995; Kollmuss & Agyeman, 2002; c.f. Jensen, 2002). The findings of Herzon & Mikk (2007) that farmers' willingness to undertake unsubsidised agri-environmental efforts was correlated with interest in wildlife and not with knowledge of wildlife, would support the idea that knowledge in and of itself does not necessarily bolster farmers' intrinsic environmental motivations. As these examples illustrate, while the accumulation of embodied cultural capital may be an important aspect of culturally sustainable schemes (since participants need an understanding of how their management practices relate to the agri-environmental good in question), knowledge alone does not cause agri-environmental management to become embedded in farming cultures.

While bonding social capital was certainly gained by some scheme participants, it was found that the social capital value of the Shannon Callows scheme to its participants may have limited by the small total number of farmers enrolled (which in turn was exacerbated by non-attendance of scheme events by some participants). The author would posit that the cultural sustainability of the scheme was also limited in this respect. With such a small proportion of the total target population participating, it is unlikely (even if participants were able to demonstrate their cultural capital through being involved) that the norms of extensive meadowland management could have been embeddeed in the greater Shannon Callows farming culture through the actions of so few individuals. Even if agri-environmental management became synonymous with 'good farming' for those farmers who participated in the scheme, it might still be considered antithetical to 'good farming' among those who did not. For this reason, high participation rates may be a prerequisite for cultural sustainability.

The findings of this research regarding social capital differ from previous research in a number of respects. Firstly, they are at odds with the findings of de Krom (2017) indicating that farmers enrolled in AESs in order to appease non-farming stakeholders (particularly environmental authorities) and secure future social licence to operate. While relations were positive between

farmers and scheme officials in this case, no evidence was found to suggest that bridging social capital was of particular concern to the farmers in question. The need to gain bridging social capital is likely to have been of greater importance to the Flemish farmers interviewed by de Krom (2017), since they faced expropriation of their land for the purposes of conservation. To the knowledge of the researcher, these are not issues faced by the Shannon Callows farmers. Additionally, contrary to recent research (Birge et al., 2017; de Krom, 2017), there was little evidence to indicate that farmers were particularly worried about losing respect (bonding social capital) among farming peers by participating in AESs. Perhaps because farming in the Shannon Callows is relatively extensive already (by virtue of the limitations due to flooding) farmers of the region are less likely to judge their peers harshly for extensifying further under the remit of an AES.

5.2 The Critical Role of Demonstrated Cultural Capital

Burton and co-authors (Burton et al., 2008; Burton & Paragahawewa, 2011) have advanced that the demonstration of cultural capital by farmers (through their management practices and the objectified cultural capital on their land) is of fundamental importance in farming cultures – and holds the key to cultural sustainability in AESs. These findings support those assertions. As expressed by Burton et al. (2008), it would seem that action-oriented schemes can be problematic when it comes to embodied cultural capital – particularly when schemes are strict and prescriptive. Anecdotal evidence from this study and findings of other research (Morris, 2006; Schenk et al., 2007; Swagemakers et al., 2009) demonstrate that farmers resent the dictatorial imposition of AESs which disregard their context-specific embodied cultural capital. Such action-oriented schemes may serve to reinforce the oppostional 'us-versus-them' paradigm among agriculturalists and environmental professionals. The researcher would join others (Tsouvalis et al., 2000; Morris, 2006) in recommending that officials of AESs – be they results- or action-oriented – should seek to engender positive, respectful relations with participants in which their context-specific embodied cultural capital (which officials themselves may lack (Tsouvalis et al., 2000)) is welcomed. The French Flowering Meadows results-oriented AES provides a blueprint for this manner of scheme. It aligned the interest of officials and farmers and legitimised the cultural capital of agriculturalists by emphasising the concept of "agroecological excellence" – the notion that conservation and production objectives are not invariably at odds (Magda et al., 2015). This was achieved by scoring participants meadow plots on the basis of both ecological *and* agronomic value (Magda et al., 2015). The scheme's developers suggest that after defining the environmental objective of an AES scheme, officials should "test its capacity to combine the objectives of conservationists and farmers" (p.1062).

The findings of this research do not, however, uphold the postulation of Burton & Paragahawewa (2011) that results-oriented AESs are inherently culturally sustainable or that they invariably allow their participants to demonstrate their embodied cultural capital in the delivery of agri-environmental goods. Thus, while action-oriented schemes have been criticised for preventing participants from demonstrating their own knowledge and skills in the delivery of agri-environmental goods (Burton et al., 2008), it has been shown that results-oriented schemes can also fall short in this regard. The author would maintain that results-oriented schemes do have the *potential* to be culturally sustainable, but – as with all policy instruments – much depends on scheme design and implementation. In light of the findings of this case study, this section discusses the critical role of demonstrated cultural capital in promoting the cultural sustainability of AESs and accordingly, makes recommendations for how policy-makers and scheme officials might bolster the opportunities for farmers to demonstrate their cultural capital through AES participation.

5.2.1 Results-oriented Scheme Officials – Environmental Managers by Proxy?

In this case, it seems it was scheme officials rather than scheme participants who assumed the role of agri-environmental innovator, and participants relied on the direction of officials to determine how to manage their plots. Environmental professionals might be reluctant to trust farmers to manage their land sustainably without management prescriptions (Hasund, 2013; de Sainte Marie, 2014) but while it is important that scheme officials facilitate the accumulation of embodied cultural capital related to agri-environmental management among participants, they should not suggest management practices to them. Otherwise, it is not possible for participants to demonstrate their own cultural capital to their farming peers (or others) in the delivery of the stipulated agri-environmental result. Accordingly, the major recommendation of this research is for results-oriented scheme officials to allow scheme participants the freedom to develop their own agri-environmental management plans and avoid the situation in which scheme officials become 'environmental managers by proxy'. This of course means (as pointed out by Moxey and White (2014)), that in cases in which it is not reasonable to expect a farmer to be able to determine how to deliver the stipulated results in a practicable timeframe, the results-oriented approach may be less appropriate than the action-oriented.

For this reason, rather than dismissing action-oriented schemes, sociologists must ask how they can be designed so as to promote long-term behavioural change: Is it the case that prescriptive schemes invariably prevent the demonstration of cultural capital among their participants? If so, what other mechanisms can be employed to promote durable agri-environmental management through the action-oriented framework?

In cases in which the results-oriented approach *is* valid, if cultural sustainability is to be achieved, the novel, results-oriented nature of the scheme and the role of the farmer as the innovator must be emphasised. The Flowering Meadows scheme, again, provides a good example in this respect. In addition to allowing its participants full autonomy in land management (i.e. significant opportunity to innovate and demonstrate cultural capital), it provided an elevated platform upon which participants could demonstrate their 'agroecological' acumen to a massive audience – the national French Flowering Meadows Competition (Magda et al., 2015). Medals for the top performing participants (institutionalised cultural capital which formally acknowledges the embodied cultural capital of participants) are awarded at the annual Paris International Agricultural Show – which has ~850,000 visitors (Magda et al., 2015).

5.2.2 Seeing Is Believing

A durable reform in land management practices was brought about in four respondents. The accounts of one of those individuals during the interviews bolsters previous findings (Wilson & Hart, 2001; Emery & Franks, 2012; Sutherland & Darnhofer, 2012) pointing to the psychological significance for farmers to see their efforts under AESs come to fruition (in the form of objectified cultural capital). As it was put by the farmer in question, 'Seeing is believing'.

These findings would suggest that schemes that seek only to maintain the quality of semi-natural agri-environmental goods do not provide farmers with the same opportunity to demonstrate their cultural capital (either through their management practices or the appearance of their land) as those that aim to enhance them. Indeed, a study on the Baden-Württemberg results-oriented scheme found that participants had little room to innovate since the objective of the scheme was maintaining rather than enhancing the agri-environmental good in question (also semi-natural grassland) (Russi et al., 2016). Because they are intended to deliver environmental improvements and, as such, may result in objectified cultural capital (physical evidence of the deliver of a superior agri-environmental good), such 'enhancing' schemes may offer greater

promise in terms of cultural sustainability. In order for tangible change to occur (be it in a results- or action-oriented scheme), there must be (i) sufficient change in management practice on the behalf of the land manager and (ii) sufficient time under the new management regime to allow that change to manifest. Accordingly, the payment structure of schemes should be designed so as to prompt a significant departure from business-as-usual on the part of the farmer and avoid adverse selection (the situation in which farmers are being paid for an agri-environmental good which they would have delivered anyway without payment[11]). Allowing enough time for an observable change to accrue can be problematic since there may be substantial time lags between the implementation of a new management regime and delivery of a detectable environmental outcome (Uthes & Matzdorf, 2013).

However, while 'enhancing' schemes seem like the better option in terms of cultural sustainability, they are not without issue. Research has shown that farmers may be less willing to participate in such schemes due to the greater associated workload (Schroeder, et al., 2013). There is also the question of whether paying certain farmers to change their ways while those who have farmed more sustainably are not similarly rewarded creates a perverse economic incentive to farm less sustainably and legitimises unsustainable behaviour. Equally, and as highlighted by the comments of interviewees in this study, one may ask whether it is fair, cost-effective or ecologically effective for 'maintaining' results-oriented schemes to pay certain farmers to continue managing their land as they always have (and as they would regardless whether payments were made) when other scheme participants with less favourable pre-existing on-farm environmental conditions are forced to undertake substantial changes in practice to obtain equal (or lesser) payments.

5.3 The (Consistently) Passive Adopter

This case study adds weight to previous research indicating that certain farmers participate in AESs with a minimum level of commitment in order to maximise economic gains while minimizing effort, like the 'passive adopter' of Morris & Potter (1995) or the 'opportunist participant' of Fish et al. (2003) while others are more engaged 'active adopters' (Morris & Potter, 1995) or 'enthusiastic participants' (Fish et al., 2003)[12]. While de Snoo and colleagues (2013) posited that results-oriented schemes might stimulate a deeper level of engagement among farmers than action-oriented schemes, this research found that financially motivated 'passive adopters' (Morris & Potter, 1995) can participate in results-oriented schemes with a similar degree of indifference. Nor did the scheme cause productivist farmers to view agri-environmental goods as akin to other farm outputs, contrary to the intimation of Burton & Paragahawewa (2011). There was no evidence to indicate that the results-oriented nature of the scheme was aligned with the output-oriented attitudes of these productivist participants. On the contrary, one interviewee felt that the scheme could contravene with productivity objectives by reducing yields.

5.4 An Acceptability-Cultural Sustainability Link?

The opinions of farmers involved in this study have flagged a number of acceptability constraints that have negatively affected farmers' perceptions of the Shannon Callows RBAPS scheme (and in some cases, AESs in general) that (as will be discussed in this section) may have

[11] This phenomenon is not uncommon in AESs (Hodge & Reader, 2010; Fleury et al., 2015).

[12] This study also identified examples of Fish and co-authors' (2003) 'disempowered nonparticipant' (Farmer 11) who does not find AES participation to be worthwhile in spite of an interest in wildlife. Farmer 2, who objects to the national-level AES, GLAS, on the basis that (i) it pays farmers to do carry out land management tasks that, in his opinion, they ought to be doing anyway and (ii) it dictates to farmers while disregarding their site-specific knowledge, displayed the attitudes of the 'abstaining nonparticipant' and the 'sceptical nonparticipant', respectively (Fish et al., 2003).

also limited the scheme's cultural sustainability. They are (i) high perceived environmental risk, (ii) impracticality of measures, and (iii) distrust of authorities.

5.4.1 Environmental Risk

For the farmers of the Shannon Callows, from whom flooding is a fact of life, it is imperative to be able to respond to changes in the weather. As Heery has pointed out (1993, p.130), "Elsewhere in Ireland, Britain and beyond few farmers are constrained as much by […] the weather". As such, the farming culture of the Callows is especially preoccupied with environmental risk factors.

Concerns expressed by interviewees regarding how out-of-control environmental risk factors – (i) weather and flooding, (ii) the behaviour of neighbours and (iii) pre-existing on-plot seedbank status – can negatively affect particiapants' scores (and thus, payments) would support findings by other authors that point to environmental risk as a key stumbling block for results-oriented schemes (for review, see Burton & Schwarz, 2013). While research suggests that environmental risk is less of a problem in reality than it is a perceived risk in the minds of farmers (Matzdorf & Lorenz, 2010; Schroeder et al., 2013; Wezel et al., 2018), high perceived risk can negatively influence farmer engagement with results-oriented AESs. Firstly, it can result in diminished willingness to enroll among potential participants (Schroeder et al., 2013). Secondly, as was demonstrated in this case study, participants who are concerned about environmental risk may be less likely to undertake meaningful efforts under the scheme for fear that weather or the behaviour of a neighbor, for example, will render their hard work in vain. These factors reduce the opportunities for the farmers to demonstrate their cultural capital under the scheme and, thereby, limit its cultural sustainability.

A number of authors have made recommendations to address environmental risk in results-oriented schemes. Zabel & Roe (2009), for instance, have suggested that the influence of stochastic weather events can be addressed using relative (or 'bell curve') scoring systems. However, this approach would be inequitable in contexts in which there are substantial persistent environmental differences between farms (i.e. in which certain participants have an unfair advantage), such as the Shannon Callows, in which the seedbank status differs from one meadow to the next. Reed and colleagues (2014) have suggested that the use of hybrid (as opposed to pure results-oriented) schemes can reduce financial risk, since they provide participants with a reliable payment that is independent of environmental conditions. As this case study has shown, however, this is not necessarily true, since adherence to certain management prescriptions can actually increase financial-environmental risk for participants – in this case farmers risked a poor harvest and even total loss of the hay crop by adhering to a mowing restriction. The researcher would advance that the most appropriate risk avoidance strategy is highly context-dependent. To start with, a simple acknowledgement by scheme officials of the significance of environmental risk and an expression of a genuine commitment to "work around the weather" (Farmer 2) as required would serve to bolster farmers' confidence in officials and assuage their concerns regarding environmental risk. The opinions expressed by interviewees indicate that denial or disregard of the importance of environmental risk factors by scheme officials would contravene with farmers' understanding of the world and undermine faith in officials rather than easing concerns.

5.4.2 Impracticality of Implementation

Impracticality of implementation was another acceptability constraint identified in this study. A scheme deemed to bring too much "hardship" (Farmer 11) to its participants will have diminished acceptability among farmers. As illustrated by the account of Farmer 11, changes in rural life and farming systems over the preceding decades have made adherence to mowing

restrictions a challenge, when they would not have been in the past. Very impractical agri-environmental schemes cannot be culturally sustainable since they will attract fewer participants (Schroeder et al., 2013) and those who do participate will feel strongly discouraged from continuing with the measures once they are no longer being paid to do so.

These findings underline the importance of taking a 'systems thinking' perspective (Meadows, 2008) and understanding that it is not simply the attitudes of farmers that have changed but the very nature of farming systems and the fabric of rural life. Social changes – out-migration in particular – may be reinforcing the intensification trajectory (Cawley, 1994; MacDonald et al., 2000; Õnate et al., 2007; Lasanta et al., 2017). Policy-makers must ask how broader rural development policy relates to (and can support) agri-environmental sustainability rather than the two policy fields operating in isolation. What seems particularly called-for in light of this case study, is policy which encourages young people to remain in rural areas. Otherwise elderly bachelors like Farmer 11 will continue to feel inexorably compelled to pursue the least labour-intensive (and oftentimes least environmentally sustainable) management options regardless of pro-environmental attitudes or social norms.

5.4.3 Distrust of Authorities

Distrust of authorities was also found to impinge upon the perceptions of subjects towards AESs. The accounts of interviewees – particularly Farmer 2 – have highlighted how disillusionment with Irish and EU agri-environmental policy has undermined the credibility of GLAS and the RBAPS scheme. If the participants of a scheme believe that it has been introduced simply as a perfunctory "nod to Europe" and not with the intention of delivering meaningful environmental improvements, they are unlikely to engage with the scheme in a meaningful way themselves. Again, this lack of engagement brought on by diminished acceptability might limit the demonstration of cultural capital and, thereby, a scheme's cultural sustainability. It is imperative that participants have faith in the ability and intentions of scheme officials.

The author would add her voice to previous calls to involve potential participants in the decision-making process from the outset of scheme development (Emery & Franks, 2012; Lastra-Bravo et al., 2015). In addition to providing farmers with platform to demonstrate their embodied cultural capital from day one, this approach would help to iron out potential acceptability issues that might later arise and limit a scheme's cultural sustainability. As suggested by Batáry an colleagues (2015), it would also be valuable to involve social scientists (as opposed to just ecologists and environmental scientists) in the decision-making process in order to increase the likelihood that socio-cultural factors which might affect the scheme's performance are well addressed.

5.5 Methodological Aspects & Further Research

Triangulation (in the form of a mixed methods approach) was employed in this study to maximise the reliability of its findings. While the researcher made every effort to be objective and limit bias, it is important to note that since just one individual carried out all of the data collection and analysis, the interpretation of these results is somewhat subjective. It is important also to bear in mind that since this was a case study with a very small sample size, what this research possesses in case-representativeness it lacks in generalisability. A key assumption of this research was that the willingness (or lackthereof) to implement future agri-environmental measures expressed by respondents was indicative of their actual future management regimes. Of course, stated intentions may not always reflect the actions that will actually be undertaken in future.

Cultural sustainability has value as a policy evaluation criterion but is understudied. While this case study was limited in what it could achieve by virtue of its small scale, it provides a useful point of reference upon which further research can build – and further research is needed. Studies of particular value will be (i) those which have large sample sizes, (ii) those which compare the cultural sustainability of different AESs (as Gustavsson (in press) has done on fishery policy), and especially (iii) those which are longitudinal (linking the experiences of AES participants with their management practices post-AES).

While the French Flowering Meadows scheme is not faultless – its environmental achievements are questionable[13] – it seems to have enjoyed substantial success in terms of engaging its participants. The author believes that there is much to learn about how AESs can be designed to promote the demonstration of cultural capital among participants through studying this example using Bourdieusian theories of capital as a conceptual framework.

Cultural sustainability and the Bourdieusian theories of capital are not only of relevance to agri-environmental policy but to any field of policy related to the management of natural resources by distinct cultural groups – fishery and commonage land sustainability policy, for example. Just one study has investigated cultural sustainability in fishery policy (Gustavsson, in press) and none have looked at commonage management. There is massive scope for research on this topic in these fields.

5.6 A Note on the Interpretation of These Results

The author would like to stress that, in spite of the findings of this study, it is not the intention of the study to identify the absence of cultural sustainability in the Shannon Callows RBAPS scheme as a failure. This is because, first and foremost, cultural sustainability was not an objective of the scheme. The pilot project set out to (i) develop and test environmentally representative, equitable and practicable indicator-based scorecards with which to calculate results-oriented agri-environmental payments and (ii) produce best practice agri-environmental management guidelines for the habitats in question (species-rich flood meadow and wader bird breeding habitat). This research has not evaluated the performance of the scheme against these objectives and, as such, cannot be considered an evaluation of the scheme's success. End-of-project output documents produced by the RBAPS team (Finney et al., 2018a; Finney et al., 2018b; Maher, 2018a; Maher, 2018b; Maher & Copland, 2018) would indicate that the scheme has delivered on what it set out to achieve. Furthermore, even if cultural sustainability had been an explicit objective of the pilot scheme, it would have been very limited in what it could achieve in this respect with just two years of implementation. Nevertheless, this case study has provided valuable insights into how future results-oriented agri-environmental schemes might be designed and implemented to promote cultural sustainability.

[13] Only four out of 39 initial participants reported changing their management practices under the scheme (Fleury et al., 2015).

6 Conclusions

For over 20 years, EU Member States have sought to induce more environmentally sustainable management practices among their farmers through the economic incentives offered under voluntary AESs. In spite of substantial public funds being allotted to them, research suggests that AESs may be failing to bring about durable behavioural change with respect to environmental conservation among their participants.

Following Bourdieu, rural sociologists (Burton & Paragahawewa, 2011) have advanced that this is since conventional, prescriptive action-oriented schemes contravene with farming cultures, and threaten the 'good farming' status of their participants. According to the authors, such schemes are 'culturally unsustainable' since they fail to become embedded in farming culture and their effects last only as long as their payments do. Results-oriented schemes, on the other hand, are purportedly more culturally sustainable since – in theory – they allow farmers to demonstrate their own knowledge and skills in the delivery of agri-environmental goods.

The findings of this case study do not support this assertion. It was found that an Irish pilot results-oriented agri-environmental scheme afforded its participants little freedom to demonstrate their embodied cultural capital and it prompted a durable behavioural change among only a small minority of its participants. While participants gained botanical knowledge (embodied cultural capital), developed friendships and acquaintances with fellow-farmers and scheme officials alike (social capital) and largely described positive experiences as participants of the scheme, generally speaking, it would not appear that any of these factors resulted in meaningful attitudinal or behavioural change with respect to environmental conservation. The author would maintain that while results-oriented schemes have the *potential* to be culturally sustainable, they are not invariably so, and as with all policy instruments, much depends on design and implementation.

Accordingly, major recommendations for the design of more culturally sustainable schemes are (1) in results-oriented schemes, emphasise the role of the farmer as the innovator and avoid the situation in which scheme officials become 'environmental managers by proxy', (2) implement 'enhancing' as opposed to 'maintaining' AESs and avoid adverse selection so that participant farmers can see their environmental efforts yield tangible results (i.e. objectified cultural capital), and (3) in all manner of AESs, engender positive, respectful relations between scheme officials and farmers in which the context-specific embodied cultural capital of the farmer is embraced.

The study also found that there may be a link between the acceptability of an AES among its participants and its potential to be culturally sustainable, since poor acceptability can result in diminished scheme uptake and/or disengaged participation. It is recommended that acceptability constraints be addressed by involving farmers in decision-making processes from the outset of scheme development – an approach that would have the added benefit of allowing farmers to demonstrate their embodied cultural capital from day one.

The author acknowledges that the generalisability of this case study's findings is limited by its small sample size. Further research on this understudied topic is warranted so that policy-makers and scheme officials may develop a better understanding of how environmentally sustainable agricultural practices can be embedded in farming cultures. This study provides a useful point of reference for further studies on the topic. Comparative research with studies multiple AESs, longitudinal studies which record *actual* agricultural practices before and after AES participation, and studies with large sample sizes will be especially valuable to the field.

While there is much speculative excitement about the potential of results-oriented schemes in the academic literature, at present there is little evidence to suggest they are a cure-all for the

shortcomings of the action-oriented approach. As cautioned by Moxey and White (2014), the results-oriented approach is unlikely to be appropriate in all contexts. For this reason, rather than totally dismissing action-oriented schemes, policy-makers and sociologists should ask themselves how durable behavioural change can be fostered within the action- (as well as the results-oriented) framework.

The fate of the rural environment is – quite literally – in the hands of farmers. Truly sustainable agri-environmental policy cannot be based solely on temporary economic incentives and indirect land management by environmental professionals. It must instead be centred around farmers and farming culture. As stated by Nassauer (1997, p.82), "Enlisting human behaviour to support ecological function requires cultural analysis". While the environmental effectiveness of agri-environmental schemes should be of paramount concern to policy-makers, if schemes are not also designed so as to promote durable attitudinal and behavioural change among their participants, the rural environment will be protected only as long as substantial payments are being made to farmers, and only that which is paid for will be protected.

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Appendices

Appendix A – Survey

This section presents the survey form that was used in this research. Please note that for open questions 7, 9 and 17, the boxes which provided space for answers to be written have been collapsed to a much smaller size than they appeared in the actual survey forms that were used, for the sake of saving space.

SECTION 1

Q1. What is your name? _____
PLEASE NOTE: Your identity is confidential and will not be shared with anyone besides the researcher. This information is required only so that I can keep track of who has responded.

Q2. What age are you? *Please mark the correct box.*

- ▫ Under 35
- ▫ 35 - 44
- ▫ 45 - 54
- ▫ 55 - 65
- ▫ Over 65

Q3. What is your gender?

- ▫ Male
- ▫ Female

Q4. Roughly, what size is your farm (in hectares)? _____

Q5. What type(s) of production do you have on your farm?

- ▫ Hay meadow
- ▫ Beef
- ▫ Dairy
- ▫ Other. *Please specify*: _____

Q6. In which of the following RBAPS options did you participate?

- ▫ Species-rich meadow option
- ▫ Species-rich meadow option with ground nesting bird mowing restriction
- ▫ Breeding waders option

SECTION 2

Q7. What were your initial reason(s) for deciding to participate in the scheme? *Please briefly list your reason(s) in the box below.*

Q8. To what degree would you agree or disagree with the following statements? *Please mark the box that most closely describes your level of agreement/disagreement.*

Statement A. 'You gained new knowledge about how farming relates to environmental conservation through participating in the scheme'

Strongly Disagree	Somewhat Disagree	Neither disagree/agree	Somewhat Agree	Strongly Agree

Statement B. 'You learnt a new skill (or skills) through participating in the scheme'

Strongly Disagree	Somewhat Disagree	Neither disagree/agree	Somewhat Agree	Strongly Agree

Q9. If you felt that you learnt new skill(s), can you briefly list what type(s) of new skill(s) you learnt? *Please use the box below to answer this question.*

Q10. To what extent did you rely on the direction of the RBAPS staff to determine how to deliver the environmental results? *Please mark the box that most closely describes your experience.*

Not at all. You relied entirely on your own knowledge.	You relied to some extent on the direction of RBAPS staff.	You relied largely or entirely on the direction of RBAPS staff.

Q11. Did you see evidence of environmental improvements on your land due to your efforts as a participant of the scheme?

- ☐ Yes
- ☐ No

Q12. Did you see evidence of environmental improvements on the land of any other farmer(s) who participated in the scheme?

- ▫ Yes
- ▫ No

Q13. Were you impressed with the achievements of any other farmer(s) who participated in the scheme?

- ▫ Yes
- ▫ No

SECTION 3

Q14. Did you develop new acquaintances or friendships with other farmers through your involvement in the scheme?

- ▫ Yes
- ▫ No

Q15. To what degree would you agree or disagree with the following statement?

Statement: 'You became better connected within the local farming community through your involvement in the scheme.'

Strongly Disagree	Somewhat Disagree	Neither disagree/agree	Somewhat Agree	Strongly Agree

Q16. Did you develop new acquaintances or friendships with any non-farmers through your involvement in the scheme?

- ▫ Yes
- ▫ No

Q17. If you answered 'yes' to the previous question, what type of non-farming individuals did you develop new social connections with? *Please use the box below to answer this question. PLEASE NOTE: You need not refer to any individuals by name; listing professions/roles will suffice.*

SECTION 4

Q18. To what degree would you agree or disagree with the following statements?

Statement A. 'You care more about environmental conservation now than you did before you participated in the RBAPS scheme.'

Strongly Disagree	Somewhat Disagree	Neither disagree/agree	Somewhat Agree	Strongly Agree

Statement B. 'Being involved in the scheme has changed what 'good farming' means to you.'

Strongly Disagree	Somewhat Disagree	Neither disagree/agree	Somewhat Agree	Strongly Agree

Q19. To what degree did you have to change your farming practices under RBAPS?

Not at all. You did not make any changes to your farming practices under RBAPS.	To some degree. You had to make some small changes to your farming practices under RBAPS.	To a large degree. You had to make substantial changes to your farming practices under RBAPS.

Q20. Now that the scheme is over, to what degree do you intend to continue farming as you did under RBAPS?

You will not continue to farm as you did under RBAPS at all.	You will continue to farm as you did under RBAPS, but to a lesser degree.	You will continue to farm very similarly or exactly as you did under RBAPS.

Appendix B – Survey Notes

This section contains the written notes made during and immediately after phone surveys with farmers. It records what was deemed by the author to be relevant data obtained during those phone conversations that was not collected in the answers to the survey questions themselves. Since two subjects – Farmer 7 and Farmer 13 – received surveys in the post (and were not surveyed over the phone), there are no notes for those respondents. However, one of the respondents to the postal survey (Farmer 7) wrote his own supplementary notes in the margins of the survey form and relevant sections of that text is quoted verbatim here.

Farmer 1 identifies as a "small farmer". Since he didn't have to change practices much under the scheme ("I didn't have much change anyway"), he doesn't think he'll be changing

practices much now that the scheme is over. He says he believes the mowing restriction only happened in the first year and there was some dissatisfaction about it (whether that was among participants or officials is unclear in his comments). He says he did not see any difference on his land because of his participation and doesn't believe other participants would have either, since it was too short a period ("just two summers"). He says he thought he relied "70 to 80%" on the direction of the officials.

Farmer 2 expressed cynicism about the scheme. He didn't think it was meaningful (something about "names in a hat" at the European Commission). He says he felt that disillusionment about the scheme from the start. He believed that things were different in Leitrim [at the other Irish RBAPS pilot project site]. I'm not sure exactly how he felt things were different. It seemed that he felt there was a greater emphasis placed on that project and he stated that "they [the Leitrim farmers] got the better treatment". He expressed a sense of continuity of the landscape – they've been "doing the same thing" for a long time; the landscape is "the same as it was 20 years ago" and will be the same in another 20 years time. This mirrors a sense of the landscape expressed by a farmer in Fish et al. (2003). He joined out of an interest for wildlife and a desire to see it maintained, not out of a financial motivation, since the payment "wasn't a lot". He mentioned that he'd heard of farmers losing money (on hay?) because they participated. He had to change his practices "a little bit" under the scheme, but with "no incentives" he indicated that himself (and, he believed, others) would "drift back to our own little ways". He agrees that being involved in the scheme has "definitely" improved his regard for conservation, but only changed his idea of 'good farming' a small bit. He didn't believe he gained much in terms of social capital since "I know them all". When asked Q.16 (if he became better connected in the local farming community), he answered 'no' and said "I know for a fact that it's different in Leitrim". Perhaps he means there were better opportunities for social benefits in the Leitrim scheme.

Farmer 3 seems to have been a convert. He had to cease the use of fertilisers and pesticides under the scheme and claims that he will continue to refrain. This year, his brother encouraged him to spray the meadow but he insisted that he wouldn't. He also mentioned that not using agrochemicals was "easier on the pocket". He expressed a belief that species-rich hay was of greater nutritional value as fodder for his sheep. He believes that farmers should be extensifying (seemingly as a matter of principle) but "wouldn't force it on anyone". His primary reason for signing up was financial but he thinks it's a "good scheme", seems to believe in its approach and cares about conservation. He expressed a disappointment that the scheme was ending. He went to the demos that were organized by officials and said he saw "an awful lot more flowers" on one participant's land.

Farmer 4 emphasised that increased "awareness" was the main gain for her. She didn't know she had ground nesting birds on her land until she joined the scheme and now she's mindful of them. She was made aware that there was "a bird down there" and then she wanted to protect it. She says she didn't have to make any major changes to her farming practices. The only change was that she put off mowing in order to protect the ground nesting bird that was identified on her land. She said that she will continue to tell the farmer who cuts her hay that she will protect the bird. She claimed that the scheme official was impressed with her hay from the outset and was considering using it as a "good example". She went to a demo that was organized. She expressed her disappointment that the scheme is ending.

Farmer 5 says that learning that what he thought were 'weeds' were actually indicators of ecological integrity was the major change for him. He had been involved in the (now

defunct) Corncrake scheme that was organized by BirdWatch Ireland and thought that RBAPS made sense as a follow on from that work.
Farmer 6 participated in RBAPS for one year and then left to participate in GLAS (the national action-oriented scheme) since the payments were much greater. Of GLAS he says, "you don't have that [learning component] in GLAS… You wouldn't learn as much". He said that he only entered a small bit of meadowland into RBAPS. It seems that he didn't have to make major changes to his practices. All he had to do was learn to complete the indicator scorecard. It seems he really enjoyed the scheme. He learnt quite a bit about the plants and found that to be "very interesting". He went on a trip to Brussels with the staff and met some people there – it seems this was a positive experience for him. He didn't go to any of the organized demos.
Farmer 7: "Unfortunately as the scheme was only 1 year duration for me I did not get to know all the participants very well. Like a lot of schemes it can take a few years to get used to different ideas… I learnt how to identify different wild flowers which I would previously [have] called weeds… P.S. Only saw 1 farmers callow once so I was not able to make a judegement on improvement from one year to the next. Very early flooding in autumn 2017 continued into late spring 2018 so it would be bad news for callows."
Farmer 8 regarded participating in the scheme as a positive social outlet for him. He described the other participants and the officials as "a very nice crowd". He believes he saw "more flowers" on his land through participating but he also said he didn't change his practices as a participant – is it possible that he perceived a change in abundance that wans't there simply because he could identify more flowers? He was involved in the Corncrake scheme. He said he went to a demo on the farm of a participant who was regarded as "the best" but the name doesn't sound familiar to me. When asked was he impressed by the achievements of this "best" man, he agreed ("T'was great").
Farmer 9 knew all of his neighbours before participating and so didn't gain any bonding social capital. In response to Q.19(a) (Likert agree/disagree: 'You care more about environmental conservation now than you did before you participated in the scheme') he said he cared about the environment before but participating in RBAPS made him "wiser" in that respect. He notices wader birds in the field now that he wouldn't have before. He stressed that he still can't identify all of the plants but more than he could before. He said that when he entered the scheme, his field was too wild and hadn't been cut in years. I asked if RBAPS, then, was his primary reason for cutting again and he said that he'd been planning to cut it again anyway (for economic reasons) but that RBAPS helped him to see the environmental benefit of doing that as well. When asked if he was impressed with other participants' achievements, he said "Absolutely".
Farmer 10 was the first surveyed farmer who indicated he'd participated in the breeding waders option. He decided to participate in the scheme because REPS had finished up and he didn't want to participate in GLAS (which, he believed, asked too much). So, even though the payments were less, he opted for RBAPS. He didn't feel he'd learnt any new skills. Rather, he was told how he should be doing things differently and followed those instructions (this seems more action-oriented than results-oriented to me). He still doesn't recognize the birds targeted by the measure and says because of this he couldn't say whether or not a change had occurred on his land. This strikes me as starkly different to the more hands-on, engaged experience of those who participated in the meadow option. He says he went to a demo on a farm in Banagher where BirdWatch had put up an "expensive anti-

vermin fence" to protect birds. When asked if he was impressed with that farmer's achievements he said "If you could say he achieved it… I don't know", indicating that the work there was done by BirdWatch and not the landownder in question. He characterized the changes he'd made to his practices as "small" (delayed mowing and decreased stocking density) and he intends to increase the stocking density and cut earlier now that the scheme is over, although not to the extent that he did before.

Farmer 11 believed that not using agrochemicals would cause a meadow to become overgrown with weeds within a few years because the seed bank of positive indicators has been depleted by pesticides. He wanted to sow seeds in his meadow for this reason but never had the chance because of late flooding. He says he didn't see a difference in his land. He went to a demonstration on callowland Clonmacnoise and believes that the land-owner in question probably had an increase in flowers but pointed out that not applying fertiliser would have negatively affected productivity ("he wouldn't have had as many bales"). He disagreed that he became better connected locally since a minority of local farmers would've asked "what are you doing there?" (meaning they frowned upon the actions of participating farmers). I asked if he meant participation would draw criticism and he answered 'no' but said that for certain farmers, "it's not for them". Putting off mowing was the only change he ended up making. When asked if he intended to continue farming as he had under RBAPS, his answer was unclear. He is struggling to manage with his current approach due to his age. He referred to difficulty in moving the cows and not being able to find anyone competent to help with this. He intends to change his practices to make life easier for himself but its not clear how that will influence his agri-environmental management. He is the first farmer to make the point that the mowing restriction made life harder for farmers, since they had to mow in two (rather than one) stages – the earlier cut on the non-RBAPS land and the later cut on the RBAPS land. This suggests that, for Farmer 11 at least, the mowing restriction was not applied more broadly across the farm.

Farmer 12 signed up because he'd been involved in the Corncrake scheme and knew the BirdWatch official who'd worked on that and who was also involved in RBAPS. Additionally, himself and several neighbours decided together to get involved. He went on the demos (and mentions the one in Clonmacnoise as a good example) but he thought that meadow plot was "naturally that way" (i.e. like that before it was entered into the scheme). He enjoyed the social aspect of the scheme – he met farmers from different counties and mentioned meeting people on an "evening out" that was organized. Now that he's learnt to identify wildflowers, he's "eyeing out" plants all over the farm, not just on the RBAPS plot. His change in practice involved ceasing to apply fertilizer and he said that made things easier for him, since there was less work involved.

Farmer 14 was never involved in any national-level AES but was in the Corncrake scheme. He believed there were "more flowers" but also stated that he didn't change his practices under the scheme. Perhaps he simply recognized more flowers. Through being involved in the scheme, he says he "met people [he] didn't know before". His idea of 'good farming' changed "a bit". He says he's "wiser now". He saw the land of Farmer 7 – who was his neighbor – and didn't believe he saw much of a change on his land over the duration of the scheme.

Appendix C – Motivations for Participation

Below are motivations for participating in the Shannon Callows RBAPS scheme cited by survey respondents, listed in descending order from most to least frequently cited. Please note that some respondents cited more than one motivation.

Motivation for participation	**Frequency cited**
Wasn't in any other scheme at the time / Curiosity / Why not?	7
Financial reasons	7
Interest in environmental conservation	3
Encouraged by scheme officials	3
Had been in the Corncrake scheme	3
Neighbours were doing it	1
GLAS was too demanding	1

Appendix D – Interview Transcriptions

Below are the researcher's transcriptions of the farmer interviews. They are listed in the order in which the interviews were conducted. The interviewer's speech is denoted by the letter 'L' preceding the relevant text, and italicisation of the text. The speech of interviewees' is denoted by the letter 'F' and the number assigned to the farmer in question. The speech of Farmer 11, for instance, is denoted by 'F11' preceding the relevant text.

Farmer 11 Date: 09/08/18 Time: 12:22 Duration: 38 minutes Location: Farmer's home
L: Maybe we could start with you describing how it was you came to be involved in the RBAPS scheme 'day one'.
F11: Someone – was it [another farmer]? – called here about it, you know. I said I'd be interested in it alright, like. But it's not simple, do you know what I mean? What they were trying to do was 'impossible', I call it. Because you get seeds and bring them from… and then to spread them out on the Callow so these flowers would be on... You'd have all that done. Anyway, last year was a bad year, you couldn't do it. The next thing the flood would come in, was in on top of it – that height of water. And sure, no seeds, any seeds won't survive when it's flooded. If you plant barley, oats - any crop – if it's flooded it's going to finish it. Even trees they won't let you plant where it's going to be flooded.
L: A number of farmers did say to me while we were chatting over the phone that it was a particularly bad year with very late flooding, was it?
F11: That's right. Well it was early enough, you see most of the callows were lost last year, like. They're all gone this year. You see that's the thing a lot of people now were… you know, you were holding out too long to cut it, then next thing it's flooded. I let to a fella last year and I didn't lose it, like. He got the [indistinct] on both plots. But then this year I cut it some time in July, and 'twas cut in the morning and it was in the yard in the evening. I remember one time there I went up thirteen times to that from here, in between cutting it, saving it. I had a baler of me own at the time – square bales – and then did it all at home and all, but that day is gone now. You wouldn't have time for – 't'wouldn't make sense, like. Everything is changing now, like. You see – I'm sure ye know it yourselves, I don't have to tell ye – big fields, grass there in the morning and when you come back in the evening from work it's all gone and in in the yard, like, you know? It's done in a very short time now.

L: Tell me, did you have that mowing restriction on the land that you entered into the scheme? There was a number of farmers, I know, had to hold off until after the 15th of July, I think it was?
F11: No, I wasn't in GLAS, like, you know. I was in REPS for years, alright. There was a scheme there like [GLAS] about sowing different for birds, like. And I said I would do it. And so the max. amount – they said to me 'if you do it you have to cut it in three places on your farm'. You have to put, say, an acre or two out there, more down here and more up there. I had to abandon it because I couldn't do that. How could I be changing machinery from one place to another? And fencing off the land there. They wouldn't let me sow it all in the one place. It had to be in the outlying land in there and I wouldn't have sowed all that. Just 'cause of the lad's, instructor's fault or something in Brussels. I remember saying to them like, whether they know they're rushes or not, birds can fly [laughs]. If there was feed for them up there, they'd find it, like. They'd go where the feed was and they fly miles for it. But you see, do they not understand that in Brussels? But, ah, they came to my way of thinking after a couple of years, you know. It was a missed opportunity, I wasn't interested in it then, like.
L: And would you feel the same way about GLAS then? The payments would have been higher to participate in GLAS probably so why was it that you-?
F11: Ah, GLAS is probably a good thing now. I'd say that, like, you know? Even though I'm not in GLAS now because 't'would make no sense, I'd have to… I'd get about three and half thousand, then you pay forty odd percent tax on that, and then pay – what the hell do you call them? – these fellas that's over in d'you know Teagasc? When it's all paid you'd have very little left. You know that's the way 't'would go now for me, anyway. But I find it good now this year. I was topping and I was delighted to see a hen pheasant and seven little lads out. Now they were as big as the tube there – [indistinct] their own. Seven chicks, aye. And if that was topped earlier they'd probably have been killed, you know. If I see them in the field, if I see the pheasant, I'd stop mowing and leave it there, leave them after me, and I'd always do that, like, and move away and leave it and go back and after a couple of weeks 'til they'd be gone, like, you know. But she had seven young chicks, like! Running around like, they were fairly big lads. I seen a curlew one day too. I rang them about but it never came back to me. And I couldn't believe it, like, because curlews are very scarce now. I was shaking bag manure. 'Twas last spring. And the next thing she ran across. The only thing I wondered, I'd say she had a nest somewhere there. I searched and searched and couldn't get it. And she ran off because normally when you rise a curlew, she'll fly off. Just tell that she ran off to bring me after her and draw you away, you know? But she must have a nest there. I didn't spread any manure just in that area then. But I never seen her after that now to be honest, like, you know? You'll get wild duck's'll do that now as well. You know, if they thought they were laying down dead start flapping along the corner [indistinct] any foxes or anything.
L: Tell me, were you involved in that Corncrake scheme that was going a few years ago?
F11: Aw, I was. I was always in that. The first corncrake that was caught in the callows, 'twas on mine she was caught, you know? I was held up in the mower, there was a strip left and they said… I can't think of the girl's name – Niece of F11: - [scheme official] something – F11: Yeah. There was some other lad… [Indistinct sentence]. I said I'd give it another try and we gone and caught one with nets for them, you know. The first one they caught and ringed 'em an' all. But having said that, to me the callow, the corncrake was badly handled that way I reckon. Because I remember one year I could cut the 1st of July and the weather was bad. 'Twas nearly a month later I was cutting. And still they were just small chicks. And if they cut the first of July, where were they? They were still – they weren't hatched out.

'Cause they were cutting too early, you see. I know it's in hindsight now but if they done what they did in the start, like. D'you know, not cut the callows as early and leave strips. [Indistinct] But there's no corncrake in it now that I can see anyway. No, no. No corncrake.
L: In the RBAPS scheme, besides the agri-environmental payments which were obviously the main draw, do you feel that you benefited from being in the scheme in any other way?
F11: In the REPS, is it?
L: No, in the results-based one, the meadows one.
F11: Ah, no. There was some kind of bird in one but I don't know what it was, what breed…
L: The one when [scheme official] was coming out, or maybe it was [scheme official].
Relative of F11: [scheme official]! [agreeing] F11: Yeah.
L: With that scheme, did you feel that besides the payments that you benefited in any other way from being involved?
F11: I did, like. I'd like to see the birds saved that was in it anyway, do you know? That was the whole idea, to keep the corncrake there, do you know? I remember the time, every field there, there'd be all the corncrakes in them. In my young days, like. Yeah there were corncrakes everywhere. But what happened, you see, was that people was putting on fertilizer and things and cutting the hay earlier. And there was some that wasn't hatched out already to get out of the way. 'T'would be more with the horse machine that they'd be able to run away if there was anything of that size. But I remember one time above and it was a long time ago on the callow, and whatever happened that year we were nearly the last cutting the callow – with the horses, like, Pierce No. 8 mowing machine. And there must have been a hundred of them ran out. Just cutting the last quarter, still in the last quarter. When they heard the machine coming they all ran out of the callow. You'd see them, there was no… 'twas all cut, like – saved. Now at that time you'd pass no remark on them, do you know, they were as plenty nearly as crows. They got very scarce when people started cutting. I heard my mother say – Lord have mercy – that [pattern?] in Clonmacnoise would be on in September and there'd be hardly no one… They had hay saved one year, it came from the same Shannon in here. And everyone was wondering 'look at the hay saved this early' and that was September. And sure now they were cutting it in early July, like. See they didn't give the birds a chance to hatch out. That's what happened, things got earlier, machines bigger. A Pierce No. 8 [mowing machine] would be only about that width of a sward. Now they're – what? – twenty, thirty feet. It's hard for the ground nesting birds to survive them, like, you know? Very hard, no matter what you do. You can't divide them – you don't know where they are, like. Is he here, is he there?
L: Tell me, under this scheme – the results-based one with [scheme official] – did you have to change your practices in any way in order to receive the payments or was it more-or-less business as usual for you?
F11: Last year's one?
L: Yes, indeed.
F11: Yeah, you just couldn't cut them at a certain time. As I say now, last year I let it now to a lad but there was something came in and they could cut one acre, one plot, but not the other one, because in the other one there was a bird in it. So he wasn't too pleased having to bring the machinery back and forth twice. He could cut that one and he couldn't cut the other one. He had to get lads in again and do the whole thing. But I kept it myself this year because I'm short on fodder, you know?
L: So the mowing restriction was probably the only difference, was it?
F11: That's the thing, that's the only different I seen, like, you know. But you see, if you set any date, it's not easy farming by the calendar, you know. There could be great weather before that. You could be waiting for that date and when that date comes it could be a wet

day. It applies across the board and a lot of things, you know. Ah, it's not simple because farmers now they just want to get it over and have it done. A lot of them that waited last year, they never cut it, like – it flooded. I was to bring bales from somewhere in Banagher, to bring them down and then take them all out and shake them all over the plots, to get these seeds from these certain flowers. But it didn't happen then because the weather broke and you couldn't do it, like, you know. Ah 'tis fierce labour intensive if you had to do that, like, you know, with the bales and they were going to cost €25 a bale or something last year. And then to get them all spread over the plot of ground and then gather it up again and then give it a run of a [harl?] and then roll it and then the flood came in [laughs]. Sure, you know, 'tis lucky enough I didn't do it, you know.
L: If that scheme from last year was going to continue – I know it's finished up now but – would you stick with it if it was going to -
F11: Ah, doubtful. You get enough hardship without looking for it, you know? As I said this year now, I… the contractor came in. I showed him what the plots was. And several of the other lads cut as well, like – 9 or 10. It was cut – twenty, twenty-five acre. 'Twas all stacked and all, wrapped and all in the evening, you know? The help isn't on the land now. That's the handiest way of doing it. See there's some fellas now, up in the callow, up in [local area] and they have, ah, they have them flowers in it and it's no bother to them because they're there. If they're gone out of it or not in it, to get them growing in it is very hard done. Very hard done. I wonder could you buy them seeds of them flowers, you couldn't buy them anywhere?
L: You might but I don't know.
F11: Then if you got them going would they…? You could make a couple of holes and put them down into them that way. And then you'd be hoping that they might spread out a bit. You see the bloody thing about all that is it's labour intensive and you can't cut it when you want to. The farmers say 'ah to heck with it, it wouldn't make sense'. You'd love to see all that thing but sometimes it's hard to follow the rules, like. It's very hard, like, you know.
L: So do you think you'll go on and join up in GLAS?
F11: Era, I won't. No, I don't do the topping there now. I see a lot of lads here now that don't do the topping the length of July, like. And I'd say it's a good thing, like. To see that they have feed for the birds, like. I was doing that as I was telling ye and they wouldn't agree to put it all in the one place – which didn't make sense, like. There was a good few acre – 6 or 7 acre you could sow – but you had to put it in three different places. I said 'sure, how could you be fencing off three corners?', three pieces of land, like. Should've sown it all together. But, like, then you were allowed after a couple of year. I've it planted, I planted 20 acre with the Norway Spruce trees. 'Twas in the outlying land. I've a plantation over there. They'll be certain amount good for wildlife. Pheasants and things would be in there, d'you know? They'd be a safe place for nesting that nothing, the cattle couldn't get near them or anything. Ah, it would. It's a help to the environment anyway, that. They tell us that anyway. They say it is trees that's good, like. This place over here, there's trees everywhere anyway. Even though them sallies [willows] – I don't like them now, the divils – they're spreading, like, y'know. Them sallies, you seen them there on the right hand side down there? I planted, eh - you see the hedges on the left all down to below? [Pointing out window]. Across there. I done them many a year ago, like. I don't like the sallies. When you go to clean a drain of anything, you can't do it with them. There's tonnes of stuff down-along. There's another name for them, sallies.
L: Do you feel that you learnt anything being involved in the scheme from last year?
F11: Ah God, I did, like. I was down in Clonmacnoise, we seen one man there had a couple plots. All the different colour flowers and everything. They were lovely now. Lovely to see, like, you know. But see, he must be a guy now who never put any fertiliser on that, just left

it alone, didn't go near it. There's one, see one farmer you're told to increased production and then if you stay static and that, you know [laughing]. If you go increase production, you wipe out them. Sprays'll wipe them out and plus the fertiliser won't be any help either. I remember in 1974, I done a course in agriculture there in Athlone and if you were able to make two blades of grass grow where there was only one you were a 'good farmer'. But now that has changed around [laughing]. I know you're all – it's greater for the environment if things didn't [indistinct] it's very good. I'd be interested in that now, like – for wildlife and all that, like.
L: Well, it's nice to hear. Most of the farmers I've talked to who've been involved in the scheme are very enthusiastic about wildlife and really do care and want to see a difference. So it's really nice to see that.
F11: Yeah, that scheme. I know fellas that were up in [local area]. They were there that day now. One of them is, ah… his brother has a lot there [indistinct]. What's his first name? – Relative of F11: [Names another participant]. F11: [Other participant], yeah. Relative: of F11: What are the other brothers' names? F11: The brother is, he's the farmer. Well he works for [local business]. They already have the flowers in their ground, like. So it's only a matter of not spraying them. But to get them – if they're killed out to get them *back in*! It's not a simple job. Because I don't know can it be done. As I say, any seeds you sow, if it floods, I never knew any that'd survive if the water comes up, y'know? They will not. Even you sow hay seeds, now, or oats or corn, if a flood comes in, it's finished, like. Even trees, if you plant trees. That's the first thing they'd ask you: 'Is this land prone to flooding?' It is they say that we can't sow trees in it then, y'know.
L: Was there any opportunities for socialising, for meeting other farmers in the area or getting to know farmers better in the area through being involved in this scheme that you were in last year, do you think?
F11: Well, we all met there in John Ryan's pub in Shannonbridge and had a cup of tea and that before we went down to Clonmacnoise. Clonmacnoise is just there [points out window]. Yeah, I met them there that day, alright.
L: I think both years they organised a demonstration. It was Clonmacnoise that year.
F11: I was at that day, like, y'know. They were very interested in it. Your man was grand but as I say, it'd be hard to get them to grow where they were died out but if they're there, they'll just keep growing like, once you're not spraying, like, or anything, they will. But to get them started up where they're not it would be very hard to do that. Especially if it's land that'll flood, like. I reckon the flood killed the seeds anyway, like. That's what I think.
L: Do you think there's any risk that farmers like yourself who are involved in this type of scheme will be criticised or judged by other farmers in the area who wouldn't be interested in being involved?
F11: Ah, no, no. No one would. It's your own ground, you can do what you like, within the law, like. Ah, no, no one would pass any remarks at all like, d'you know?
L: So what reasons do you think other farmers would have for not wanting to participate in that type of scheme?
F11: I'd say a lot of them wouldn't know that much about it, I suppose, d'you know? If they already have the flowers, it'd be a great scheme. Because, like, you have to do nothing, only just leave them. But to get them back in if they're gone out – that would be a problem. I can't see it being solved like. Because of the flood coming in. Any good work you've done, it'll finish it all off. I wouldn't think they'd survive the flood, like. They could be flooded for months, like. But, ah no, farmers, they wouldn't pass any remark, it's up to yourself what to do like, d'you know.

L: Now, going forward, you've said you're not going to go into GLAS but will you continue to manage the land as you did under this RBAPS scheme or do you think you'll change your practices again?
F11: You see, that's the thing, that's what I was saying about this year, like, cutting it. 'T'was into, July, wasn't it, [name of relative, present]? Relative of F11: 'T'was, yeah. F11: Yeah. 'T'was in the yard in the evening. 'T'would suit me, like, you know. Because if I have to drive a tractor, now, from here up there so many – thirteen – times, 't'would be a lot of work and it's a dangerous road too, with the big machinery and that, you know. A bad old road, like, y'know? No, the handiest way, sure, the contractor does it for me, like. He does all the work. Sure, you could have fifty acre of stuff there now and 't'would be in and more in a couple hour. It's unbelievable. You'd be three, two months long ago saving. With two or three men, like, it's all done. But it's costly the same. Do you know what, it costs money to do it. But it's worth it. There isn't help on the land anyway now to do it. Lot of young fellas out and all have jobs, like. None on the farm – unless you had a good dairy farm or something, like.
L: It just doesn't make sense, I suppose, to be doing it in separate lots, really – in two or three gos, even?
F11: That's right now. I like to do everything I can for the environment as well, like, even I'm not in GLAS. It just doesn't make sense to me. The farmer then next door, it makes sense to him because it's different circumstances, d'you know?
L: So you yourself didn't feel that you saw a major change because of that flooding and the seeds – so you didn't really see any change over the last two years on the meadow?
F11: No. If the weather was good enough but I'd say they were finished off because it flooded. I think, you know. I'm not saying I'm 100% right. Anything, any seeds you sow, if they're flooded you can forget about them, and same with the trees, like.
L: I've been thinking about what 'good farming' means to farmers out here on the callows. Do you think managing the land in a way that's good for the environment is part of 'good farming' for you?
F11: Oh, certainly. I remember growing up with all the flowers you'd see along. But you see what's happening now is farmers, if there's a bunch of nettles on the side of the ditch, they'd get this spray and kill them off. In farming, there's one crowd praising us for doing it, you know, 'you have the place looking well' – no dirt, no nettles, no docks, no thistles, no... [Laughs] And then, another crowd that's against it, you know? That's not helping the environment by having all that – they were great for the wildlife, do you know? Every one of them things had something to do. But sure, land then that's left – if you left the callows the way they are, give it ten, fifteen year, most of them would be a complete write-off because there's a thing – we call it 'agrimony' [meadowsweet], there's another name for it – completely takes it over. 'T'wouldn't be worth harvesting, you might as well left, you know? 'T'would go wild. Even, I see around here, I was out topping there myself the other day, land that wouldn't be topped. Give it a few year and it's gone all thistles and everything. No much use at all like, you know, for farming. You have to keep after it to keep it right, you know. By doing that, you're doing harm to the insects and all these sorts of fellas y'know. I remember long ago when you'd go out digging spuds, every piece of spud you'd have, we used to sow certified seed, and every one would have a partridge in it. There might be two or three clutches on the one bit of ground. They only fly about a hundred yards and pitch down again. The next thing, the partridge vanished. We were young lads at the time, wouldn't pass much remark. And do you know what vanished the partridge? A spray came out to spray the spuds, to spray them off when they were a certain size. Because you wouldn't want them too big for the Department of Agriculture. Many a load was sent down to Cork from around here. British Queen and Kerr Pinks and if they were anything over two and half inches they were too big so they'd spray 'em off. There was this redshank and all these

types of weeds and the partridge was feeding on them seeds. They ate the seeds and poisoned every one of them. They all died. Not a partridge to be seen now unless you're in – they're doing a great scheme there somewhere in Offaly with Bord Na Móna [the national bogland authority] that reared the partridges. I seen something on television. It's sad to say, like, d'you know, to see that happen. The Bord Na Móna then doing away with the bogs and that's the habitat of the curlew, and she's nearly gone now too. There's many species of birds. The yellowhammers, I remember them in my young days, you'd see them flying. Larks in the bog. Hares and all them. They say south Roscommon used to be the best in Ireland for wildlife long ago. Because everyone. There was a lot of fairly small farmers. And everyone had – they'd have spuds and they'd have carrots, turnips, mangles. There'd be an odd lad that had bees. They'd have oats and maybe a lot of barley. The place was teaming with wildlife. The feed was there for them, you know. They stay where the feed is. Even during the winter, like, that's why that sowing for the birds, that's a great idea, like. Although I brought up in a meeting one night, 'that's a great idea to…' and one lad stood up and said 'sure you'd only need that where the tillage counties is' he says. Says I 'they wouldn't need it where the tillage counties is because they already have it. It's where the tillage *isn't,* which was around here. See there's very little tillage around here at all now since we went into the EU. Even everyone had a garden that time. There's twenty things missing, maybe more off this farm. Now, that's when I grew up. Twenty things. That'll tell you the way everything has gone. That's with the EU. You couldn't even keep a few hens or a pig or ducks or anything. We had hens, ducks, geese, turkeys, sheep, and pigs, barley – you'd sow a bit of barley -, oats and beet, spuds, mangles, turnips. All them things, all gone. If you went out now and tilled one of those fields, you'd have to change all your maps and say 'that's not under grazing now', d'you know? Never see a hen or duck or anything here. You'd be in trouble too, you'd have to… You can't keep them anyway, you know?

L: It seems like this emphasis on productivity that's come with the EU, with that policy that came in – how do we try and reverse that change in approach?

F11: Oh, that's bygone days now, you know. I often see now, after doing the thrashing down there, there'd be meitheals of men going around, all helping one another, and all the little birds, there'd be seeds coming down and they'd know what the seeds was. There'd be hundreds of them, all day they'd be digging and they'd get the seeds that fell out the mill, d'you know? Small weeds and the seeds of them. And we'd be young lads trying to catch one of them but [laughs]. Ah no, there were – everything has changed now alright. A lad long ago with four or five cows – they'd get five cows round here long ago, or seven or eight anyway, you'd a 'big farmer', like. Yeah, you would. And then the cow virus came in. Then the cubicle house came in. Then the slatted sheds. All changing, you know, the whole time. All changing the whole time.

L: And these agri-environmental schemes that we have – say REPS and GLAS – do you think they'll be able to bring things back to how they were in any way?

F11: Ah, they'll never come back to where they were, like. They're a good help, a good thing, now. See they don't cut these. I see a man in there now didn't cut the top to ground and all them seeds'll go back into the ground and the birds'll feed on them, d'you know? It's a good scheme now, like. REPS was a great scheme, like. The best that ever came out. They cleaned up farming, d'you know? It was nice and tidy and that, d'you know? I remember there'd be all bits of machines that you'd pass on the road. 'T'was a great scheme alright.

L: Do you think being involved in this scheme the last couple of years, that it changed your attitude towards environmental conservation in any way?

F11: Ah, it certainly would like, d'you know. Everyone likes to see. We'd all love to go down there and see the partridge and pheasant. Now the pheasants are still there. You'd love to see the curlew again. I remember years ago we'd be up on the bog cutting turf, curlews everywhere. It's like a real lonesome kind of a – in the evening you'd be working late, you'd

nearly go home, there'd be a lonesome call, d'you know – the curlew. But, 'tis a pity. It's progress in one way and the other way the environment…
L: I'd love to see it as it was. We never got to see that, you know.
F11: No, no. I remember it well. I remember once there was every sort of wildfowl around here. You could see the geese coming in the winter time. They used to come here but you wouldn't see them now. They go to other parts – Wexford and Dublin. You see them and they fly like a 'V'. We'd be saying, and digging the spuds, 'there'll be frost soon, the wild geese are arrived', you know?

Farmer 6 Date: 09/08/18 Time: 14:00 Duration: 22 minutes Location: Farmer's home
L: Why don't you explain first of all how you came to be involved the RBAPS scheme that [scheme official] was involved in.
F6: You're not recording me actually yet?
L: I am.
F6: Oh, Jesus [laughs]. No, I didn't mean that. I have to be careful what I – How did I come to be involved? I suppose the reason how I did become involved was I had been in environmental schemes for a period of time and then I actually missed out on joining the GLAS. GLAS was suspended for a term so I missed out on the GLAS. I had been in REPS and I had also been in AEOS, which are two other environmental schemes. I missed out on the application for GLAS because I was just finishing my last year I think in AEOS. So that's how I came. This scheme then came up and I got a letter from… is it… [Scheme official] who is coordinating this scheme here in the Shannon Callows and I joined that. But I joined on the condition that… the scheme on the Shannon, on this BAPS or – isn't it BAPS, yeah?
L: RBAPS.
F6: Yeah, RBAPS. That, sure, was a three year scheme but I told her that I may not join for the full three years because I had the reintroduction of GLAS again. It started – or, I would change to GLAS. For the simple reason that the GLAS payment was substantially higher for me than the RBAPS. Having said all that, it was actually a nice environmental scheme. I did come into it and I was very pleased with it because it filled the year in for me in a scheme and I also learned a good bit from it as well.
L: Would you say so? So you were probably out learning to identify the flowers down there?
F6: Exactly. The different flowers and the wild grasses and all that sort of stuff.
L: Did you enjoy that aspect of it?
F6: Ah, yeah. Interesting, yeah. Naturally.
L: And since you've had that experience with all of the national agri-environmental schemes as well as this one, how did your experience differ between this scheme and say, REPS or AEOS or GLAS?
F6: Oh the payment was much different. Naturally, now. The REPS was the initial one. The REPS was very, like, there was a lot of, eh… compliance involved with REPS because there was a number of penalties if you didn't subscribe to the programme that you could be penalised on. Actually, you could have incurred 100% penalty if you were careless and polluting and stuff like that. Ah, I thought the REPS, though, was a great scheme because I think the environment benefited greatly by the REPS. I think, ah, it was yeah, very good, 'twas a very broad scheme and it involved a lot of things like. There was a higher payment but then there was a cost involved. Farmers invested money into winter housing and they invested money into fencing of stock and d'you know what I mean? That was a very scheme,

I thought, overall. The RBAPS is just – it's a nice little scheme – but like it's just – what could you say? – observing nature, like, every year, where nature will draw up those flowers and you will go down and single them out and you'll look at them and get to know them personally and all that sort of thing [laughs]. It's not going to, if you know what I mean, it's not a scheme I think that does anything for the environment. That's what I think about it.
L: So for you it was more -
F6: It's more got to do with just living with nature and being environmentally conscious of the, of nature and stuff like that. That's what I think anyhow. Well, I can only be as honest as I can and tell you what I think. It has its benefits, though, for certain areas and that but I'd say with mainstream farming you don't have the land to match the requirements of the scheme, you wouldn't gain any monetary… you know what I mean?
L: Yeah. Would you say that being involved in the scheme changed your attitude in any way towards the environment, towards conservation?
F6: I wouldn't say it did, no. Not towards conservation. I think, though, you learn from it. You gather more information, like. You learn from it, you become aware of what's happening around you in your meadows and the different species of plants and stuff like that. That's my personal opinion anyhow.
L: To what degree did you have to change your practices, if at all -
F6: I didn't have to change. For mine I didn't really have to change at all. Once you could cut the grass after the 1st of July you didn't really have to change. It was kind of, eh, it was like mana from heavan [laughs]. The only thing – the cheque was a little small. You'd need a wider scheme - do you know what I mean? - to expand it into your main farmland, I think, if you wanted to proceed with RBAPS, like. Make it larger and make the payment worthwhile, do you know what I mean? Bring it into a broader scheme, I think. That would be my opinion anyhow. It would work in a scheme like that. One factor among others, do you know what I mean? That's what I think now.
L: I know there was a few demonstrations organised by the staff, by [scheme official] and others. Did you go to any of those demonstrations? There was one in Clonmacnoise.
F6: Yeah, I went to one of those, yeah. Well that was a training, training… yeah I went to that. Yeah, that was nice. We got a full run-down on the whole scheme and we were shown all the slides and we were shown... 'Twas a whole day going on and then we went out to the practical walks and the [laughs] the scenery around Clonmacnoise, which is much the same land as my own around here. All going down towards the Shannon and… Yeah, I thought it was a benefit to us, alright.
L: Would you say that the scheme in that sense was kind of a social opportunity for some of the farmers in the area? To get together on those occasions?
F6: Well, I only went to one day so I didn't meet many farmers but the farmers I did meet I'd never met before. Yeah. And actually I met a fella down there, he was doing the scheme, and he actually became, he was an agricultural consultant so he does my work now for GLAS and single farm payments and stuff like that. So I was actually delighted I met him now. That worked out alright. I suppose there would be a nice little gathering but sure that's not the purpose of the environmental scheme, though, is it? The bringing people together – or is it? Do you see any value in that, like? I suppose maybe. That's the way the scheme worked anyhow. You see, there weren't that many on our Shannon Callows, I think. About twenty, you know? Something like that. Where most of the fellas would have gone into GLAS. They weren't with… I think there was only one other fella or that from my area here which could have been in that now. Most of the neighbours, sure, they're in GLAS.
L: And other farms in the area, do you think there's any risk that you'd be criticised or judged for getting involved in this scheme rather than another one or not getting involved in this scheme?

F6: Well, I don't know that. That wouldn't be the scheme of my choice, the environmental scheme, you know. I would seek the benefit of GLAS. GLAS'd be a better scheme for me. D'you know, I'd be able to harvest more from it – financially. But we're all falling back, you see. We're not up to where we were with REPS initially. The REPS was the highest paying environmental scheme to farmers. Those schemes have fallen back a lot. They have over time, they have fallen back. The payments and that.
L: And now that the RBAPS scheme is over and you're moving into GLAS, will you continue with the mowing restriction that you had under RBAPS or will you go back to the way you were doing it before?
F6: Oh, no, I have to continue. You have to continue under the GLAS. The GLAS date is actually the same as the… yeah, the 1st of July.
L: Okay.
F6: We did have a corncrake scheme there.
L: That's right. Were you involved in that?
F6: I was involved in that, yeah. Years back. But the corncrake, unfortunately, is extinct now in the Callows. You do know that?
L: Yes.
F6: That was a great little scheme because I do remember participating in that. Now that scheme, there had a lot of sense in that scheme because the birds were almost gone extinct. We were doing our best to keep them there and we did have, we were practicing mowing down the middles of the callows and, like, d'you know. I do remember one year, I was there with one of the lads over the scheme and he came in the day I was mowing and we actually came on on a nest of birds and it was amazing how they were able to flee from the mower because you were cutting from the middle. They were able to move in ahead of you into the grass and into the cover. I do remember that day there was about five or six of those little corncrakes and we actually, we left a ridge of, a little rib of grass all down along the length of the field to let them take cover and that. Yeah, I do remember that now. That scheme was actually – and still it failed because the weather actually wasn't, we got very wet weather after that, very wet years. The birds – I don't know, they got died anyhow. There are no corncrakes in our callows anymore. So that was it then, that moved on. At the time we were doing that scheme in conjunction with the REPS and that was all tied in, do you know what I mean? But that was lifted then, the restrictions, because the corncrake was gone. But I'd say the flowers will be there for a long time [laughs]. I hope you'll be around to see them. Do you reckon you'll be up on this scheme yourself?
L: How do you mean?
F6: Will you be working on this scheme?
L: No, well I think it's over now.
F6: Oh, is it?
L: Yes, unfortunately.
F6: Like, for good now? Or is it going to be -
L: I believe it's over but I'd say if they could get funding to keep it going maybe they would. Who knows? [Scheme official] would know better than I would, of course. No, I think that's the end of it now because the funding they got was just for the two years, unfortunately.
F6: And are you doing a write-up on this scheme?
L: Yeah, on farmers' perceptions of it.
F6: Do you have enough stuff to go on?
L: I think I do. I had almost all of the participants involved in the survey. I'm going into depth now with the interviews, that's the idea. But if it was carrying on would you consider going back into it in the future?
F6: Well I think it should be run with GLAS. Why are they separate, like? Do you know what I mean? If you have a piece of ground, that'd be the only bit of my farm that would be

suitable for that RBAPS. Well, sure, I mean, of course I would, yeah. I'd like to continue with it if it were expanded into the main scheme.
L: The difference with the RBAPS was that the idea was that you were paying based on the results rather than based on the actions, which is how GLAS is working – that's based on what you do or what you don't do – whereas with RBAPS it was based on what you produce or what you don't produce on the land. That's novel, there's only a handful of those in Europe. Ireland is actually leading in terms of that stuff – you know, the one on the Burren is kind of a flagship one now. It's very experimental which I suppose is why they got the funding for this one here. The idea was to trial it, you know, and I suppose that's why there's an interest in how farmers responded to it compared to other schemes, you know? *Do you feel that agri-environmental schemes in general are contradictory to what farmers are trying to achieve themselves on their land, because there's a big emphasis and has been for a long time on productivity? Do you see those schemes as being totally in conflict with that or can they ever be made to work with farming? What do you think?*
F6: Well, I think it hinders productivity, those schemes. That's the biggest fault I have for them. Especially in the GLAS also. [Excised] Because you have to get crop and you have to get grass. You're dependent on your land more so for productivity as well as the GLAS. But I do stick by the dates. The dates are important. We do cut after the 1st of July but then what we do would be take an early grazing and stuff off that so we'd correspond the cutting, alright, to the dates. That's the way it is anyhow.
L: In terms of RBAPS, besides the payments, was the knowledge that you gained the main additional benefit or was there any other way that you felt you benefited besides the payments?
F6: Era, not really. It was just you were made aware of what you were getting your money for. That was about it. But 'tis nice to see all those different flowers, they're all lovely down in the ground. It's only on ground by the Shannon that it grows, different species and all flowers and stuff like that. So, I would think that other than that I don't have a whole lot to say about it. 'Twas a novel idea, alright. 'Twas unusual and everything. Whoever thought of that was definitely a genius [laughs]. There will be other schemes coming on track like?
L: I'm sure there will.
F6: Maybe this, I'm sure this will be included in a scheme in the future. Especially around here.
L: This area especially is a focal area, I think. There'll be something else down the line. Finally, did you think that you saw any change on the callow that you entered over the time that you were in RBAPS? Did you see any change, maybe in the species that were there?
F6: No. Not really. No, I didn't see any change.
L: Just because it was too short a time?
F6: Yeah. You mean a change, like, in…?
L: In terms of what they were looking for and that was the number of flowering plants in the meadow.
F5: Oh, yes. Ah, no, I didn't. I wouldn't say I saw any change.

Farmer 1 Date: 09/08/18 Time: 19:25 Duration: 15 minutes Location: Farmer's home
L: Maybe we could start with you explaining how it was you came to be involved in the RBAPS scheme 'day one'?
F1: Good question. I don't know. [Laughs]. I can't remember. Em… I presume somebody contacted me. I can't honestly remember.

L: Were you involved in the corncrake scheme?
F1: I was, yeah. So I'm presuming it was some of those people that... I presume they did, but honestly I don't know.
L: Besides the agri-environmental payments you received as a participant of the scheme, do you feel that you benefited in any other ways from being involved?
F1: Ah, I suppose, a little bit more aware of the different flowers and all that. I suppose, I didn't really pass too much remark on them before. So I suppose, a little bit more now.
L: Did you think there was any opportunities for socialisation, for meeting other farmers and getting to know other farmers better through the scheme?
F1: Yeah. Well, there was a one day event for each year over the two years that you kind of met other farmers. Now there wasn't too many on it either time that I did it. Apart from that, I think there was something in Athlone near the end of it there alright, but I was working.
L: There were a couple of demonstrations organised by the officials. I know there was one in Clonmacnoise. I'm not sure where the other one was. Did you attend those?
F1: Yeah, it was kind of a one day thing with a kind of classroom thing in the morning and then they brought us out to callow around Clonmacnoise, I think. I think there was only… there could've been only four of us there that day.
L: And what did you make of that demonstration?
F1: Ah, it was grand, you know. It wasn't, there wasn't a whole lot to it, I suppose. They were kind of showing you what to look out for rather than… there was a lot of things I wouldn't have known.
L: While the scheme is over now, if it was going to go on, do you think you'd stay with it?
F1: Ah, I probably would, yeah. Now, I'd be honest with you, I suppose, if you wouldn't be paid, you wouldn't be in it. [Indistinct sentence].
L: Did you yourself have to make any changes to your land management practices in the scheme?
F1: Eh, no. Not for that scheme. For the corncrake one, you would. You know, you were prevented from cutting early. Some of it ran very late. And then you had to cut from the inside out, which for me, wasn't a problem, it was grand. Once you get in on it, if you measure it out properly at the beginning, you just fly around it just as handy. Inside-out or outside-in, or whatever you call it.
L: I assume, so, that you weren't applying any agrochemicals on the meadow before you were involved in the scheme?
F1: No, well, I haven't anyway for a good few years. Because on that land over the last few years, I've got a lot of summer flooding. So, it'd be a waste of time anyway.
L: And are you mowing quite late down there?
F1: Well, it all depends on the weather. I think the first year – sorry, I tell a lie there – the first year of it there was a restriction on the timing of the cut… I think it could have been after the 15th of July. Then they discovered, I think, they would've preferred if it was earlier. There was no restrictions that I'm aware of for the second year. But they thought that after the first year, they realised maybe that there was too much growth by the time you cut. They were hoping maybe that if people could cut earlier that they could cut a second time. I think [scheme official] must have said that. I found that maybe it was a bit too late.
L: So I assume, then, that if you didn't have to make major changes going into the scheme, that going forward it'll be managed the same way?
F1: I presume so, yeah.
L: Do you have any experience of the national level agri-environmental schemes, like REPS or GLAS?
F1: No, no.
L: Is there any particular reason why?

F1: I don't have any animals. So, I think for both of those schemes, I think you have to have animals. From what I am aware of.
L: Do you think being involved in this scheme there was any risk that other farmers in the area who weren't involved would judge you or criticise you for getting involved in this type of scheme?
F1: Eh, I wouldn't imagine so, no. I'd say most farmers are probably in GLAS or REPS anyway so. Not really that I'm aware of anyway. Most of them probably didn't even know about it [laughs].
L: Yeah, it seems that besides the farmers who were contacted directly about being involved, there wasn't a whole lot of awareness about it in the area.
F1: No, I wouldn't imagine so. I only know one other [direct?] man that was in it.
L: In talking to the farmers, it seems there is a conflict in recent years between productivity and the ethos of agri-environmental schemes. Do you feel that they are at odds with each other?
F1: I suppose they can be a bit, yeah. Again, I haven't an awful lot of knowledge about it because I'm not in, only in these schemes.
L: So you wouldn't feel personally that being involved in those schemes hinders your productivity, your objectives?
F1: No, no. Maybe the corncrake one did a bit but… On the balance, for money it was fairly okay for the corncrake one so it probably balanced itself out. And I suppose because I wasn't relying on – because I have no animals – because I wasn't relying on getting hay off it, it didn't really impact me an awful lot.
L: Did you feel that you saw a change in the land over the two years of participating?
F1: Eh… there wouldn't really now. No, no. Because there was nothing different if you know what I mean.
L: The aim of the scheme was to maximise the species diversity on the meadow. So, I guess they must have seen your meadow maybe as a good example? Was that the case? Is there already a lot of wildflowers out there?
F1: Well, I suppose the whole callows would be – well, I wouldn't say it's probably all the same but… There was one we had two pieces on it. I think one of them was a lot more wildflowers and that than the other. I suppose, again, I wouldn't have been aware of that. What they might call wildflowers, we'd call it 'dirt' [laughs]. You know, we would say it's not grass. Era, from that, over the two years, probably not. I know at the end of the first year… it was wet anyway… it never happened because a flood came in. Can't remember exactly what she wanted done now but they wanted like re-seeding, bringing, transferring crop from another piece of land, a kind of a donor. But at the time anyway, it didn't suit me. And it so happened anyway that the flood came, you know, they wanted to do it around August or September, at the time it didn't suit me anyway. Or else they said they would do it. As it transpired, couldn't do it anyway because that flood came and… But I suppose in one sense it made *some* sense, but then again, because we're so used to flooding, you know that it mightn't actually work.
L: If that flooding wasn't such a risk, do you think you'd be intensifying down there, applying fertiliser?
F1: Ah, yeah, I would. Yeah, yeah. Now some people still put out fertiliser on it, some don't. We haven't for a good few years now.
L: Because it's a waste with the risk?
F1: Yeah, kind of, and I always thought that it kind of brought in, some people call it reeds or flaggers. I thought it made it very strong. And I think since I stopped, or we stopped, I don't think that's as bad. You know, going back years ago, it probably got fertiliser every year and it just made it worse. Since we stopped using it I think, they're not as bad or as strong. It's only my own opinion anyway.
L: There are farmers in the area who want to bring in flood control measures and control the flooding in the area. If that happened, do you think you'd be intensifying down there?

F1: Those flood control measures are really only for to keep it out of towns. So I think it would probably make it worse for us. You know, water has to go somewhere. So if they're building them walls in Athlone, you're keeping it out of the town, which is fair enough, but water has to go somewhere – this is the hole that it finds [laughs].
L: Do you think being involved in the scheme, you attitude towards environmental conservation changed over those two years?
F1: Em, maybe a small bit, yeah.
L: Was that just through learning about what was down there, the flowers?
F1: Yeah, I suppose before this I wouldn't really have passed too much remarks on them. They were there. As I say, to us they were probably 'dirt' we'd call them.
L: I spoke to one farmer who believes that having the flowers in the meadow increases the nutritional value of the hay as fodder. Would you agree with that or?
F1: I suppose I don't really use the hay myself as such, so I don't honestly know.
L: In the demand for the hay, would they prefer if there's less of that?
F1: Eh, yeah, probably. Well, especially what we'll call the 'reeds' anyway, definitely. If they were getting too strong. Unless you got it very early in the year, we'd say maybe June or that, they get too strong. Especially when we were in the corncrake grant, there was too late so they were getting really strong and hard and the cattle didn't really like it. It was just too strong.
L: Well that's it now unless there's anything else that you'd like to say about the scheme?
F1: Nothing really. Just that I suppose the marking system was complicated. You'd imagine there could've been a simpler way

Farmer 3 Date: 10/08/18 Time: 12:01 Duration: 30 minutes Location: Farmer's home
L: Why don't we start with you explaining how it was you came to be involved in the RBAPS scheme 'day one'.
F3: Ah, I seen it advertised in the paper and I said and I said that might suit because I have a bit of callow. I'm interested in that kind of thing in any case so I phoned them and they were very helpful. Then they organised a meeting, and information meeting about it. So I went to that and they explained it – they were very thorough. 'Twas very thoroughly done, the whole lot. They explained exactly what 'twas about and it looked it 'twould be workable. That's the main thing. Once it's workable, you can take part. Then a few of my neighbours were interested as well. Then I told a few people myself and there was one that wasn't really suitable, because he was elderly he wouldn't join it. So that's how we found out about it really.
L: What did you have to do in terms of changing practices, if anything, in the scheme?
F3: The only major change was not to put artificial fertiliser on the land because that was wiping out all the native flowers and stuff on the callows. That was the main – and not to graze it – I wasn't grazing it because it's very marginal land. Only in a year like this could you graze it. Now it's a blessing to have it this year because there's nothing growing on the good land. So, 'twas a blessing to have it this year for a bit of hay. The hay is in that shed there now, from the callow, and it's super to have it. But normally – it depends on the weather, it's completely weather-dependent. Some years you mightn't even set foot on it because it would flood. There were some terrible years when you couldn't even get the hay off it. But traditionally the people were very dependent on getting hay in that place for their

animals, you know. There's a big history that the landlords shoved all of the people out of it. He was stuck himself and he shoved all his tenants out and then they had a cattle drive on him so then that's how they came back out to own it as well [laughs]. He got the shove himself! [Laughs] It's kind of in the annals of the local parish, you know, that the landlord wasn't such a bad person but he was stuck himself for grass and he put all his animals in where the people used to take their hay off so then they all had this cattle drive and he realised that the game was up, really. So, they all got 4 acre lots – small enough. In another parish they got 1 acre lots, which is very very small, you know. But that's how small the farms were. People were very dependent. 'Twas a very different world altogether. They were really really hard times for the people there, you know [laughs]. Yeah, they were very dependent on that. So, it's great to have the hay. It's very nutritious. The sheep love it. Those sheep there now, they love that hay. There seems to be more goodness in it than other types of hay, really.
L: I remember you saying on the phone that having more species in the callow was good for the nutritional value.
F3: Yeah, yeah. Sheep love variety. They'll eat a lot of weeds, what other things won't eat. Of course, they're short grazers, which isn't good this year. They graze down tight to the surface and see that's why the grass is very slow now here. We're hoping there's going to be a right shower of rain on Saturday. We've had no rain in about 12 or 14 weeks. Only a tiny bit. Very bad year, extremely bad, but not too bad. Mine is wet. The far end of this [gestures] is wet. So not too bad. You know, there's good and bad years. Overall it's a good year, I suppose. The sun is shining. It's good for farmers, you know. [Laughs].
L: Besides the payments that were made in the scheme, do you feel that you benefited in any other way from being involved?
F3: Yeah, because I met a few people at it that were kind of like-minded. Even the staff were very like-minded. 'Twas beneficial all round. It's good for everyone to know as much as possible. You learn something every day. No one knows everything. The neighbours taking part is a nice thing as well. They'd a bit of communication – 'can we cut it? When can we cut the callow?'. It's good for everyone to be involved in something like that. Keeps your finger on the pulse, as I say. Of course, money is the motivation. 'Cause that's what makes it all go around! [Laughs] 'Twas beneficial in lots of ways.
L: Do you feel that you learnt a lot, and if so, what did you learn?
F3: Well, I didn't realise there was so many species of plants in the callows. Also that the callows weren't all the same. There's different callows. Different plants grow on different parts of the callow. Well, I thought, if it floods more it's more restricted, and the less flood on the place, the more plants you got. It could have been that when the flood happens, all the seeds and stuff – 'detritus', we could say – gets washed up on the side and the seeds are all shoved up there, you see. That's why there's more plants there. It depends. But in Clonmacnoise there's beautiful callows.
L: So you went to the demonstration that was on there?
F3: Yeah, twice I went to it. That was very interesting. By rights, 'twould be lovely if it was bought by someone, that you had it in perpetuity. Because, let's say if a change of ownership happens, that might be lost, you know. It's rare enough. But I think it depends. If the manure, artificial fertilisers or spray aren't put on the callow, all the stuff will come back. The seeds are there the whole time. It's not so bad – it's there, you know, it's useful. So, there's pros and cons. It's great to have it, you know. The only thing is, the size of it is very small. Acre lots, nowadays, oh my God. Because in Cork, ye've big farms, you know [laughs]! It's a different world altogether, d'you know. And it's not going to last. They're not making a living. They're not going to last. There's going to be big changes. I can't see the… Unless the small farmer has a job with the land, he cannot survive at all. I'd like to see that they'd

be able to keep going, but I don't know. When you see farmers in England complaining about a thousand acres and they can't make a living, sure we haven't a hope at all, you know? [Laughs] Maybe they're too greedy, you know, too. If people lived 300 years ago on 14 and 19 acres and they survived… Maybe they've got it all wrong, you know. It's hard to know. It's the global thing, as well, you know. That they're bringing things in from Argentina and Brazil where they've huge – you see, the competition is there. Australia and all that. But, you see, Australia and all those countries are weather dependent just like us. They can get a year with a big drought and they mightn't get anything at all, like, you know? It swings and turns. There's never one year the same. That's very important, you know. That'll keep you going. [Laughs].
L: Were you ever involved in any of the national-level schemes, like REPS, AEOS or GLAS?
F3: Yeah. [Excised] I am involved in the GLAS at the moment. There's an awful lot of problems. [Laughs] I better be careful! I'll tell you the exact truth... [Excised]
L: I heard about [those issues with GLAS].
F3: [Excised]
L: How do you think the experience of farmers who are involved in a national-level scheme like GLAS differs from a scheme like RBAPS?
F3: It's a lot more manageable, your scheme. And it's better, it's localised. [Excised] But all [certain farmers] want is the money and not a single other thing. [Laughs]. They want the cheque and nothing else. You know, human nature. You know, you can't blame them, maybe. [Excised] But the BAPS was very well done. They're very like yourselves now, they're very friendly. You can talk to them. We were going through all the different wildflowers, and if you didn't know them, they'd explain them two or three times. They couldn't be better, you know? I found them very – it was very interesting. And 'twas very well done. They got photographs – I think everything should be kept as simple as possible. That doesn't mean that the farmers are stupid or anyone is stupid but if you've a whole load of small print it's like an insurance policy and you never read it. And if it's something simple with photographs, they will remember it. And by showing them on the field exactly what the problem is – They had courses for the GLAS, as well, and that was useful. It's up to them, they have to take the - they have to realise they have to do something too. It's important, you know. You see, the fertiliser – 'twas easy not to do the fertiliser. Then the other things about the callows – [scheme official] was thinking about bringing seeds in and all that you know – but you see, it depends on the flood. It depends on the year. Last year, she couldn't do it because the flood [indistinct] and then she suggested cutting it a second time, which was a good idea as well – they were all good practical things – but the year came against us. Like, this year you could do that stuff. But the flowers were in it this year, 'cause when I cut it there was way more flowers, and I was surprised. [Interviewee's phone rings, he answers and the recording is paused.]
L: You made some slight changes to your practices. Do you think that you saw a change?
F3: Yeah, yeah. This year particularly I did see it, yeah. And the hay is lovely. Of course the year helped big time. It all depends on the sun for a good, nice hay. And not to leave it out there too long either.
L: I know the scheme is over, but would you continue to manage it that way now?
F3: I would, yeah. I don't believe in putting bag manure on it because all it grows are docks and stuff you don't want. I don't believe in bag manure for that place at all. Even, I'd sooner not use bag manure on any farm, really, if you could. Like, if I'd a proper set-up, I'd have farmyard manure the old way and use it that way. When we were kids, that's all we had. I'd sooner do it that way. I think that artificial fertiliser is very debatable. What's in it and everything. Was it monitored or anything? I don't believe in it at all. They're absolutely

convinced that they're going to solve everything. It's a shame. They've to take a step the other way. Big time. This year'll prove it now, because people are heavily stocked and they don't have enough food and everything. Sure, it's going to be a disaster. Even in England, they're selling stuff off, the animals already and everything. You see people were told there's going to be a boom in the dairying. That's happened several times before. History repeats itself. When we joined the EEC, the same thing happened. People expanded and it was foolish. Even myself now, I've too many sheep. I might have to cut down. Fifty have to go. [Laughs] I kept too many offspring. I said 'they'd make nice ewes', you know? They have to go as well. They have to be offloaded. [Laughs].

L: It sounds like you have a very positive attitude towards conservation already. Do you think it changed in any way through being involved in RBAPS?

F3: Eh… It is, yeah, yeah. It did change. The more people involved the better. The people that was taking part in the scheme was actually of all the same frame of mind, really. Not being insulting, 'twasn't that big on money but the people living around here, especially near Shannonbridge, will say 'any pound is a good pound'. The right attitude. It did change. Before this, you'd never seen it working really. REPS 'twas harder to see it. REPS was good as well. REPS was a very good scheme [indistinct] sow the trees. 'Twas more practical. My neighbour, now, he told me he's in GLAS and – see I'm only after buying this place three years ago – and he told me that he's in GLAS and now he has to do the hedge, you know, the coppicing of the hedge. He doesn't want to do one bit of it. He only did it to get in, you see. Well, it's not workable, he shouldn't have touched it. I learnt from experience, if you know it's not going to work don't put them in because you know they won't do it. It's no point. Aim for something that you know you will be able to do fairly easily. But the coppicing, like, is a big job. But we'll see how he gets around it. He was asking about it yesterday, and I told him you can't use a machine, it has to be done by hand – he wasn't too keen to hear this [laughs]. But, sure look't, that's the way it is. He'll have to get people to help him, I suppose. But it should be easily attainable. It's good to see a result. Seeing is believing. But the callows… One man had a callow [scheme official] was aiming for. He had all the wildflowers there, absolutely everything. In the callows closer to Shannonbridge, it was callow but it doesn't flood as high. 'Twas higher up. And everyone was admiring this, saying 'oh my God, that was like years ago'. That's the way the callows were years ago. Ours now have caught up, there's more stuff in them. It's nice to see it. It's nice to see it. And I think the hay will be good as well. The hay will be a lot better quality.

L: It's funny because I've heard farmers saying the opposite as well, maybe not that the hay wouldn't be as good, but that you'd have fewer bales.

F3: Yeah, yeah, that's right. Oh, that's true. Fewer bales. But actually, this year, you didn't because the dry weather suited it. But it's better to have fewer, better quality with more feed in them than a whole load of… You see when they're putting the fertiliser on, they're also getting more reeds. It gets more straw-like. An awful lot more docks in it and an awful lot more things they don't want, really. It's no good. It just ends up as bedding. So it's better something that they'll eat, then when you put it in the manger, there won't be as much waste. That's what I think. That's my attitude, in any case. You know, they'll actually be paying more if they have poorer quality stuff. They'll be buying more meal and all that. They only think about the volume. Every farmer thinks volume. They ask 'how many bales did you get to the acre?', you know? But this year, I did okay. My brother said 'don't cut it' and he wanted me to spray it. But I said 'no'. If I spray it, 't'will kill everything there. I don't want to spray it. He has a lot in the callow as well and when he seen how mine turned out, he didn't do it. He followed me then. So that was how it worked there.

L: And he wasn't participating?

F3: No, he wasn't. No, no. He seen it made no difference. The spraying is just – he said 'it's full of docks'. Before I went in he said 'it's full of docks'. I went in and there was very little

docks and the docks that was there was only like pencils, you know, they're a different kind of dock. [Scheme official] explained it. There's two different… They were harmless, really. They weren't too bad at all. The nitrogen brings on the docks big time, you see. You see it on the dairy farms down in Cork.
L: Do you think there's a risk that if a farmer was very production-oriented that a scheme like this would totally go against his thinking?
F3: Yeah, it would, yeah. They're only interested in volume and bulk and they wouldn't be as interested at all. But in this part of the world there's not much dairy, there's only a few. And if they were dairy, they'd be shoving on the artificial fertiliser. [Interviewee's phone rings and recording is paused while he takes the call. Before the recording is started again he asks whether the RBAPS scheme will continue.]
L: Everyone has been asking me that question. I think there's a lot of people disappointed to see it end, which is really nice. The payments are less than GLAS and still it seems people would rather be involved in this type of thing.
F3: Ah, they would. It's not too much hassle. GLAS can be – there's no scheme, it's not carte blanche, as I say. There no scheme ultimate - you can't please everybody but the more numbers involved, the harder it is to do it. And there has to be a discipline put on it too at times. Any scheme that brings a pound to a farmer is needed, especially on the small farms. It's a good thing.
L: In other research on other schemes elsewhere, it was found that when it comes to results-oriented schemes like this one, farmers would be very critical of them. Do you think there's any risk that farmers who weren't involved in this scheme would judge or criticise the farmers who decided to participate in this scheme?
F3: Oh, of course they would. You have to take part. You know nothing about a scheme unless you take part in it yourself, and they call it 'the scheme for the flowers', you know, they didn't know. They haven't an iota. A farmer is very dismissive unless he takes part himself. Seeing is believing and all that. That would be the way they would think, an awful lot of them. They wouldn't have an iota. It depends, completely depends. Some people have a positive attitude. See, some people too also, because it's such a small area of the farm, they wouldn't be too interested in any case, just a matter of tidying it up but actually because it was heritage land as well, it was a ticket into the other schemes. You know, you had to have some natural heritage, it was great to have it. It was a bonus to have it, it gave you priority admission into GLAS. That's right. If you had an acre of callow, of designated land, when there was a tiered system. So they have to appreciate it, you know. There's benefits all round to having it. But some people would just cast it off as being just, you know, we've to tidy it up or what do we've to do with it this year? Also too because of the weather, like, they went 4 or 5 years when they didn't even go in the gates to take a bit of this. It's useless. The farms are fragmented. It's very difficult. [Indistinct sentence]. Even myself, like. 'Tis awkward to get someone to come along and cut the hay and all that stuff. Once it's done, it's great to have it. It's great until you're collecting the hay and bringing it home. [Laughs] It's great to have it. Especially this year, now. It's turned around completely. Did you go into the callows yet, no?
L: We went for a walk yesterday and saw a bit, you know.
F3: Well, everyone has cut their lot this year. 'Tis after-grass now and the after-grass is quite big as well, you know, quite high as well. But some years you could see that half it mightn't be cut at all. And that's a disaster for everything, for the wildflowers and the whole lot. So, it's all weather dependent, I'm afraid. Totally. Like farming in general.
L: It would have been nice to see the scheme go on another few years -
F3: Ah, it would be great. It should be there the whole time. It's better too when the people actually manage themselves. Because the government could have bought all those lots. It

would cost a lot more if they just… There's more use and at least they get their hay so it's producing food. It should be better quality food when you're advertising. You could say the meat off those animals should be better quality, you know? You could tie it in with that. There's a girl in [region of another county] selling the organic lamb and she's pushing it that they're grazing on this sand bank, on the machair and the lamb is tasting an awful lot better and everything. Herbs and the whole lot. You could tie it in with production. You could use it as a marketing strategy.
L: In France, they have a scheme very like this one in the Bauges Massif where there's a lot of sheep farming. They are using it there as a marketing tool as well. They do really believe that the meat tastes better -
F3: Oh, the French'd know – they're into their *cuisine*! Very good, yeah. That's the way it should be used. Because now everyone is trying to sell their lambs and there's a big scramble to get them off, they're going off to the Muslim countries now. That's saving our market now, only for that there'd be a big collapse in the prices. Even the local hotels are not selling much lamb. They're not marketing it the farmers, there's not enough coordination to push it. An awful lot of restaurants don't even serve lamb. Even in [region in another county], they're not even serving their own local lamb, which is such a shame, especially when there's tourists around. Now's the time to push it and have the boats all out there. That's where they're falling down, I think. It just takes a bit more work. They'll have to do it because, only for the Muslim outlet, the market would be completely collapsed here. They can tie it in, they can actually make the BAPS scheme as a kind of a positive for the marketing as well. It all makes sense if you just take a step back, you know. It's all about using your head. But how to convince farmers is a different story. They are convinced that tonnes of manure and artificial stuff and sprays will do everything for them, you know. And also to production, you know. It mightn't be a good idea at all. It might be actually better to cut back, have less production, get a better price, not kill themselves. And them under strain from banks. What's happening, you see, they've all borrowed a rake of money for this, that and the other, and now probably half of them are going to be in bother. You know, the banks won't give them any money and all this. Some of them are gone off paying crazy money for land and everything. You know, it's a vicious circle. So that's my opinion of it [laughs]. So it's hard to know where to win.

<u>Farmer 2</u> Date: 10/08/18 Time: 13:45 Duration: 19 minutes Location: Killeen's Pub, Shannonbridge
L: Maybe we could start with you describing how it was you came to be involved in the RBAPS scheme 'day one'.
F2: I just seen it advertised and just kind of looked into it.
L: In the paper, was it?
F2: 'Twas in the paper, yeah. I just looked into it and that was it, like.
L: And you weren't involved in any other agri-environmental scheme at the time?
F2: No.
L: Any particular reason why you weren't?
F2: Well some of the GLASes to be honest are rubbish.
L: In what sense?
F2: I'll probably speak my mind, as you know. Well, they're getting you to do things that you should've done yourself for starters. And you nearly need permission to go out and walk

your own land, they're gone that strict. I'm not a believer in that. If that's where farming is gone, they can have it. That's personally the way I think about it.
L: So you liked that maybe there was more freedom with the RBAPS scheme?
F2: Well, yeah. I don't see anyone coming along telling me how to – I don't like anyone coming along telling me what to do. It's grand to be able to say 'yes, this would be a good idea' but like, when you're in GLAS – ! [Excised]
L: Tell me, as a participant of the RBAPS scheme, did you have to make any major changes, and if so, what were those changes?
F2: A few. Well, not a lot, like. They were probably just giving us a little bit more knowledge. That's the way I could probably describe it the best. We were probably ignorant of some of the facts that's in the callows and things like that.
L: So it was kind of a learning experience?
F2: Without a doubt. Without a doubt, yeah.
L: Would you have been applying any agrochemicals onto the callow before the scheme?
F2: No.
L: And did you have a change to your mowing date?
F2: Years ago we often done… Oh yes, there was because there was a few birds found on it here and there, or adjoining callows. Years ago, if there was ever birds in it, you'd be asked to, you would cut it from the centre and things like that. But not a lot. Not really, there wasn't a lot of changes to be honest with you. Just maybe wait a few weeks… One of the biggest problems I found and no one ever mentioned it, I brought it up at a meeting and was kind of looked at as if I'd three heads. The biggest thing of all those, it's down to one thing - and you can pick up forty folders going to any meetings – but one thing wouldn't be in it: weather. That has to be certain as far as I'm concerned, if there's anything ever done like that to be done again, say ye'd work around the weather, because the whole world is working around it at the moment. That is the only thing I'd have against it, like.
L: I know – was it the first or second year – there was very late flooding in the spring.
F2: That's right. And even last year was hard got. I cut it two days after the day I was supposed to be starting and if I didn't it was raining all after that. I actually didn't even make hay of it, I made silage, I threw it all [indistinct]. But that way, you probably would have lost it only for that. You could have cut it maybe a few weeks before the done date. But it worked out okay. Couldn't argue with it.
L: Besides the payments that were made as part of the scheme, do you feel that you benefited in any other way from being involved?
F2: A little bit, yes. Getting back to the payment last year, the payment I got last year barely covered me having to cut silage, bale it, having to hire a lad to draw it home. For hay, you make it and you go in and toddle along and bring it home in your own time. All down to weather again. That's what I'm saying. The few pound you got, yes, was more than a help, let's be honest about it, but I wouldn't be… We did a few changes, I suppose, here and there. As I said, it did make us wake up and see what – some of the flowers that were in there for years and we were calling them 'weeds' [laughs]. I'll be honest about it, I actually said that. We were ignorant of it. And that was every one of us that I know that was in there. We all held up our hand and said 'yes' – we were a little bit of… not knowing what was happening, really. Which is great. It makes you more conscious now when you walk on your land at home.
L: So your attitude would have changed to those particular plants?
F2: Oh, yeah. That'd be the only bit of callow I'd have [indistinct]. I'd have all pretty good land at home, but you're still kind of looking at things that you'd never looked or [indistinct]. Which is no harm.

L: Do you think there was any opportunity for socialisation? I know there was a couple of demos that were organised. Do you think there was a social outlet involved in it?
F2: Yeah, probably a little bit but I wouldn't be banging a drum about it. A little bit. A lot of those… There was a few little things on here and there that… Like, people have to realise… It's like, you realise, you were trying to get through to me [on the phone]. I work because no way would farming keep us going at the moment. So, like, even the last day there, it was a Friday. There was something on I think down in the Hodson Bay [Hotel] or something?
L: Yeah.
F2: I couldn't go to it. Neither could some of my neighbours.
L: Because it was on throughout the day?
F2: Yeah and if I'd to take a day off, regardless what I was getting for the callow, it would be a waste… so. [Laughs].
L: What do you make of the national-level schemes, like REPS and GLAS?
F2: I was in REPS years ago, it wasn't too bad. GLAS, like, I have no time for it to be honest with you. I put it with the IFA as far as I'm concerned. They're two dirty words in my vocabulary. [Laughs].
L: And what is your objection with GLAS compared to REPS?
F2: As I said, to change the… [Indistinct sentence] The inspectors are ridiculous. They say they're going to be there a certain day, then they ring every two or three hours, 'we won't be there today, could be there next week'. If you've to take a day off, that's two days gone. They have – the least respect they have is for the farmer, not for anyone else. You've to get permission to open a gap in your own ditch in the middle of the farm. Realistically speaking, cop on is the biggest problem [indistinct]. Not sitting down at a desk looking at 'yes, that man has to do that', never been on a farm. The REPS, years ago, we were in it, when they were growing up. I've nothing wrong with it. I though the REPS wans't a bad idea but the GLAS is taking it a little bit… They'd want to step out of Europe and look at what's happening in Ireland. That's the first thing they need. If Europe says 'your cattle should be out on that field', then come and look at that field. Now, if you've to hang bird boxes – which I have no problem with – but you see, people putting them up on a shed that birds had never been around in their life just because GLAS says we have to put up five boxes. Put them up somewhere they should be. Like, if they're going to do things, get them done right.
L: And I suppose that's one of the strengths of the local scheme, that there's more recognition of what's going on in the local context.
F2: Yeah. But I can see this is going to be the new GLAS – BAPS – in years to come. If you read between the lines, I think that's what's happening. Isn't it?
L: Well, the idea with this one was the European Commission putting out feelers for this type of scheme.
F2: I knew 'twas kind of a dummy run, as I say it was.
L: Do you think there's any risk that farmers who weren't involved in RBAPS would criticise farmers for getting involved in that type of scheme? Would they have any reservations about that type of a scheme?
F2: I don't know.
L: You didn't encounter any -
F2: Oh, no. No, no. Era, we're not that bad around here. [Laughs].
L: It's been said of other schemes of this type that… for instance, there's one in France and some research on that said that farmers who were involved in that thought that other farmers were judging them for 'counting flowers'.
F2: Jes-!
L: You didn't notice any of that here?
F2: No, no. No, no. No, I haven't [laughs].

L: A lot of farmers I've talked to here have talked about how things have changed over the last few decades with different agricultural policies coming from the EU level and how that's increased this focus on productivity. Do you think that agri-environmental schemes are in conflict with those productivity objectives that farmers have?
F2: My honest opinion about all this is… farmers doing a lot of work for Bord Bia, IFA. Well, I'm going to be shot for saying this if someone is listening to this… to say representatives in Europe, all we are is little dots. I speak me mind, I've never pulled back from anything in me life. But that is the truth. You look at Bord Bia, which… I'm in it, I do it. I'm just picking that as… Why not the bigger picture? Why not the [indistinct]? Why not the little things like that? What BAPS is really about it is nodding to Europe, saying 'yes, we're doing something about it'. That's all we are. But I can read between the lines. There's more emphasis on… Going back to Europe… I could see that below in the Hodson Bay [Hotel] there a year ago. There was more about getting something going back, getting us to put down something on paper, getting us to – our input. It wasn't really, at the end of the day, about the flowers that's in the callows. The Burren, yes, because it's tourists. Without a doubt. Without a doubt. 90% of that is tourist ran. The Burren is doing well that there's more money from them tourists. There's more grants. In Leitrim I think they were getting it just to keep them shut up… because of what they're doing to the forestry there. Here I think they're just trying to keep us quiet as well about something else but I haven't found that one out yet. Well that is the truth if you actually break it down. You've never looked at it that way?
L: Well, I wouldn't be clued in on that stuff. But I do know that there is a focus on this area for conservation because of the callows, because it's unique, even in a European context. You had the corncrake scheme before. Did you yourself see any major changes from before you started the scheme to now in terms of species diversity on the callow?
F2: You mean have I noticed anything or has it improved?
L: Have you noticed an improvement or any change?
F2: No. Not a bit to be honest. Because my callow wasn't that bad anyway. I was probably one of the lucky ones. Not saying I was on the top but I wasn't on the bottom either. It was fairly clean callow. No, not really. It hasn't improved or disimproved. Ah, it definitely hasn't. I don't think it has because we didn't do anything [indistinct] really. All I did was go out and monitor it more than anything else.
L: And you said you had that mowing restriction because there was birds identified down there?
F2: Which I don't mind to be very honest with you. I wouldn't be giving out about that at all. At the end of the day, if all was known, those flowers were supposed to be about the birds. No one has mentioned that at all. [Laughs] So, like, that's what I'm saying. That's why I'm saying it gets back to Europe again.
L: So your feeling is that the scheme was a 'ticking the box' kind of thing?
F2: [Nods] Ticking it and putting circles around the square box.
L: In years to come, if you noticed there were ground nesting birds down in the callow again, do you think you'd mow later?
F2: I would. Well I'd be like that anyway. Kind of - I'm into that. [Excised] … saying that, I genuinely mean that the way it was run, it was run pretty well. The way it was explained. Like, we were red raw, hadn't a clue, still probably are with what's happening in the flowers and all that. It was very well presented, I have to admit. Very well presented. Great help. I mean, let's be honest, we were pure dopes looking at…when we started out, looking at the pictures going 'does that look like it?', 'it does', 'oh, we're not sure'. It was very [indistcint] I think. It was well presented, I have to admit.
L: Besides anything that's been mentioned already, did you see any strengths or weaknesses with the scheme?

F2: Not really, no. I think in some of the callows, the location of the callows was more of a disadvantage to themselves than the scheme itself. [Indistinct sentence]. You could be doing whatever you want to – say, just say for argument's sake, that's your callow [places down salt shaker], and this is the neighbour's here besides it [places down another prop] and you're trying to do your one and your man over here is putting on spray. [Laughs]. I suppose a few of us have been lucky enough that the neighbours that's in the callow don't spray.
L: So that's something that's out of your control, I suppose?
F2: Exactly. That can happen. I guarantee it will happen or it is happening. To a lay man person passing through, if you pass through callows four or five weeks before they're cut, you'll know what has been put on and what hasn't. For lack of a better word, if you see a 'dirty' callow with thistles and things in it, that has got fertiliser over the years. If you see something that's extremely clean – no flowers, no nothing – that's got sprayed. So, you can actually see it. Regardless of what they're saying – that you can't do this or that – people will go in at night and do it. So, like, that's the downside of that. That's out of everyone's control. That's out of the scheme's control. They can't do anything about it either.

Appendix E – Other Opinions on Irish AESs

Below are opinions of interviewees regarding Irish AESs (REPS, GLAS and the Shannon Callows RBAPS scheme) that were considered to be outside the scope of the research questions.

Scheme	Opinions

REPS	- Opinions overwhelmingly positive
	  o "a great scheme" (F6 and F11)
	  o "the best [scheme] that ever came out" (F11)
	  o "wasn't too bad" (F2)
	  o "a very good scheme" (F3)
	- Profit-oriented 'passive adopter' Farmer 6 complained that there was "a lot of […] compliance involved" but appreciated that the average payment under it was higher than that of GLAS. He also believed that the "environment benefited greatly" due to the "very broad" nature of the scheme.
	- Farmer 11 appreciated the aesthetic benefits delivered by the scheme, saying it had "cleaned up farming" and made the place "nice and tidy" by forcing farmers to deal with unsightly scrap waste ("bits of machines") on the roadside.

GLAS	- Opinions much less favourable than those on REPS
	- Complaints:
	  o High costs associated with application and implementation ("When it's all paid you'd have very little left" – F11)
	  o Administrative burden ("it's a lot of bloody hassle" – F3)
	  o Issues with officials ("the lest respect they have is for the farmer" – F2)
	  o Conflicts with productivity ("it hinders productivity" – F6)
	  o Decreasing payments ("The REPS was the highest paying environmental scheme […] [They] have fallen back a lot. […] The payments and that." – F6)

	- Farmer 2 believed some measures only existed as a perfunctory box-ticking exercise and not with the intention of delivering any real environmental benefits ("Now, if you've to hang bird boxes – which I have no problem with – but you see, people putting them up on a shed that birds had never been around in their life just because GLAS says we have to put up five boxes. Put them up somewhere they should be. Like, if they're going to do things, get them done right.") - Some positive opinions: o "a good thing" (F3 and F11) o F11 pointed out educational component was "useful"
NPWS CFPS	- Opinions largely positive: o "a great little scheme" (F6) o "for money it was fairly okay" (F1) - Farmers generally seemed happy to implement the stipulated measures (inside-out mowing and late mowing were measures mentioned). However, Farmer 1 complained that the late mowing date negatively affected the quality of his hay, making it coarse and reedy ("too strong"). - F11 believed the mowing dates were set too early to sufficiently protect the nesting corncrake and attributed the failure of the scheme to prevent regional extinction of the species to this - Involvement in the scheme was cited as a reason for participating in the RBAPS scheme by three respondents
Shannon Callows RBAPS	- Farmer 1 complained that the scorecard system was "complicated" and remarked that there "could've been a simpler way" - Farmer 3 would like to have seen the scheme used as a marketing tool to promote the products of participants