Project acronym: SURE-Farm
Project no.: 727520

Start date of project: June 2017
Duration: 4 years

T4.2: Assessing how policies enable or constrain the resilience of the arable crop farming system in East England, UK.

An application of the Resilience Assessment Tool (ResAT)

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Due date	30 November 2018
Version/Date	Final version 30 September 2018
Work Package	WP 4
Task	T.4.2
Task lead	WUR
Dissemination level	Public

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1 Introduction

The Resilience Assessment Tool (ResAT) used in this exercise addresses the extent to which current EU and English policies, and in particular the CAP, enable or constrain the resilience of European farming systems (see Termeer et al., 2018, for further details). It is applied in agro-ecological system case studies, which in England is focused on large scale arable farms in East Anglia. Importantly, the aim of the tool is not to assess the resilience of policies themselves, but the extent to which these policies influence the resilience of European farming systems.

The characteristics of policy addressed by ResAT are robustness, adaptability and transformability (Meuwissen et al., 2018). **Robustness** is the capacity of a system to resist external perturbations and to maintain previous levels of functionality without major changes; **adaptability** focuses on increasing the capacity to identify and adapt to constantly changing conditions, to learn from them and emerge even stronger from disturbances; **transformability** is the ability of a system, when pressures threaten to make it dysfunctional, to incorporate or develop new elements and processes such that its operational logic is changed, including dismantling of elements of the existing system and development of radically new values, processes and identities.

The ResAT protocol involves seven steps. The first is identification of the main farming system-specific challenges, and this is undertaken in Section 2. The next five steps are described in Section 3 and are designed to assess the resilience of policies in relation to the specific challenges faced in the farming system in question. Step 2 involves collection of policy documents which include CAP implementation plans and national agricultural policy programmes (Section 3.1). These form the main data input to the ResAT process. In Step 3, the data are analysed using a coding structure to identify passages of text that describe the characteristics of policy in each document (Section 2.2). Step 4 involves interpreting and scoring this data using a 5-point Likert scale by several researchers (Section 3.3). Consolidated scores are then assessed from an aggregate perspective in Step 5 and in Step 6 are presented in the form of a ResAT-wheel, one each for policy goals and policy instruments (Sections 3.3.1 and 3.3.2). Step 7 requires commentary and correction on the overall results from stakeholders, and this working document is provided to inform participants in that process. Section 4 provides a few brief remarks on the outcomes of the process and a commentary on issues that arise for resilience as a result of the Brexit process.

2 Identification of specific main farming system challenges in East Anglia

The East Anglia NUTS2 region, consisting of the counties of Norfolk, Suffolk and Cambridgeshire, is one of the foremost arable regions of the United Kingdom. The annual agricultural accounts estimate shows that, in 2017, 47% of the value of gross farm output came from crops and 45%

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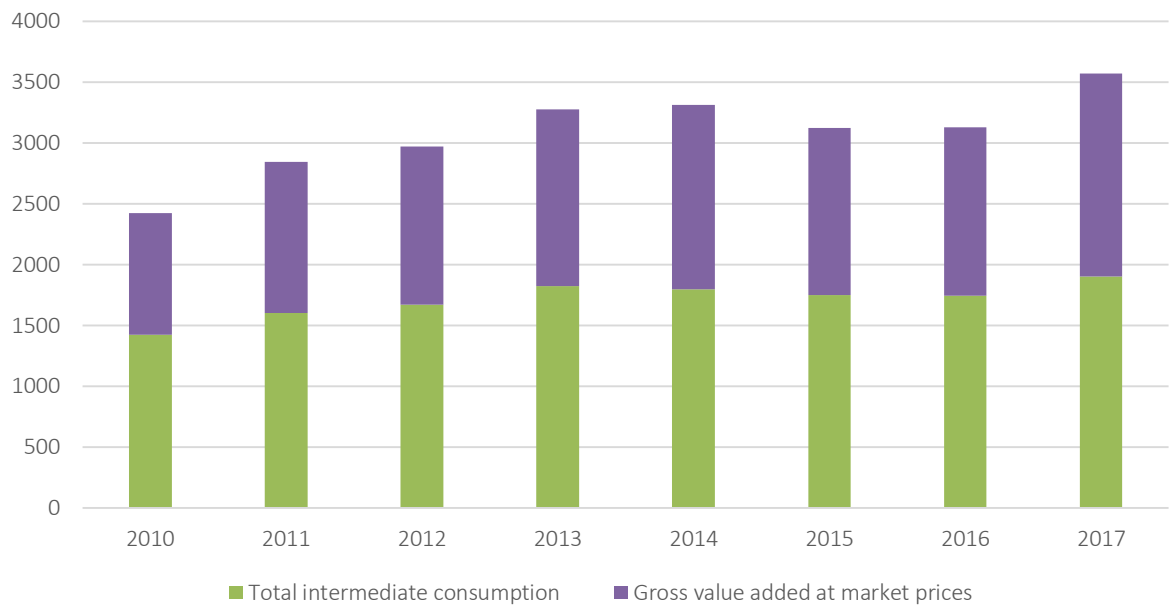
from livestock and livestock products, and most of the latter came from intensive pig and poultry enterprises that are based on local availability of feed cereals.[2] The total income of farms in East Anglia has been broadly stable over the past eight years, as the chart below shows. While the underlying data is expressed in current prices, use of the GDP deflator does not significantly change the variations shown here.

Figure 1
Production and income account for East Anglia
(current prices, 2010-2017)



While soils are fertile and productive, and agricultural structures are favourable for high value arable production, there are some long-term policy challenges which need to be addressed. These may be divided into challenges which are environmental, and those which are socio-economic.

East Anglia has relatively low rainfall compared with the rest of Britain, (between 40-80 mm on average) and has large areas of low-lying land, near or below sea level. It is therefore vulnerable to forecast climate change and mitigating actions that are needed include improved sea defences and investment in irrigation and water management in order to continue to produce high value crops.

[2] For NUTS2 regional agricultural income accounts 2010-2017, see: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/736544/agriaccounts-regnuts2dataset-30aug18.ods (accessed 27/09/2018).

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The intensive nature of arable production produces other environmental challenges, including diffuse pollution and damage to soil structures. Many of the watercourses are effectively industrial drains. Diffuse pollutants that are a concern for the region's watercourses include sediment and nutrients from high risk crops (root crops, maize, outdoor pigs; pesticides from arable farming; and nutrients from the intensive livestock farms through spreading of manures. Soil compaction occurs from the use of increasingly heavy machinery, and cereals monocropping or long periods between break crops reduce soil organic matter. Water erosion is less a problem than wind erosion, which has been worsened by the rate of loss of traditional field boundaries. The intensification of cropping has also reduced biodiversity, directly through loss of habitat and indirectly as pesticide use has disrupted food webs.

Coping with the environmental challenges in order to maintain the long-term viability of the land resource will require substantial investment in both physical and human capital. The gap in agricultural productivity growth between the UK and other leading nations, such as France, the USA, the Netherlands and Germany has widened over the past decade (AHDB, 2018). Machinery costs are frequently cited as a major challenge for farm businesses, although investment levels are virtually static. Greater investment is required for widespread adoption of precision agriculture to reduce seed, fertiliser and agrochemical input costs. Improved efficiency in farming, as well as improving profitability, also has beneficial impacts on environmental quality. Likewise, generational renewal of farming will involve not just recruitment of labour, but farmers and farm workers with high levels of additional skills and motivation to tackle these environmental challenges.

Alongside these challenges, a major imminent disruption which was not foreseen at the time of the implementation of the 2014 CAP reform is the UK's exit from the European Union. Since the precise form of the future EU-UK relationship has yet to be established, in particular the trading environment between them, it is difficult to assess whether the current policy framework contributes to the resilience of the East Anglia farming system. The first government statement since the 2016 referendum concerning farm policy (Defra, 2018). does, however, make the direction of travel clear. It sets out the intention to withdraw area payments to farmers over a number of years and replace them with payments for public goods, including landscape, access and environment.

3 Application of the ResSAT Protocol

3.1 Data collection

The national documents collected for analysis using the ReSAT tool relate to both the goals and instruments of agricultural policy. For the former, the most appropriate statement of policy

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accompanied a consultation in 2013 on how the reforms agreed to the CAP would be implemented in the UK, supplemented by the government decisions in the light of an analysis of the responses received.

Table 1: Data analysed using the ResSAT Protocol

Document reference	Date issued
Policy goals	
#1. Department for Business, Innovation and Skills, 2013. A UK Strategy for Agricultural Technologies. London: BIS.	July 2013
#2. Defra, 2013. Implementation of CAP Reform in England: Consultation Document. London: Defra.	October 2013
#3. Defra, 2013. Consultation on the implementation of CAP reform in England: Summary of responses and government response. London: Defra.	December 2013
Policy instruments	
#4. Defra, 2014. An introduction to the new Common Agricultural Policy schemes in England. London: Defra.	April 2014
#5. Defra, 2014. The new Common Agricultural Policy schemes in England: August 2014 update (Including 'Greening: how it works in practice'). London: Defra.	August 2014
#6. Defra, 2014. The new Common Agricultural Policy schemes in England: October 2014 update. London: Defra.	October 2014
#7. Defra, 2014. The new Common Agricultural Policy schemes in England: December 2014 update. London: Defra.	December 2014
#8. Defra, 2014. The guide to cross compliance in England. London: Defra.	December 2014
#9. Defra, 2014. The new Common Agricultural Policy schemes in England: February 2015 update. London: Defra.	February 2015

For the latter, from 2014 onwards the UK government issued a series of summary statements on how the elements of Pillars 1 and 2 of the CAP would be implemented. In total there are six of these (mostly short) CAP reform updates. Alongside these derivatives of European Union policy, the relevant national policy statement in the UK was the launch of the Agri-Tech Strategy in 2013 which aimed to develop closer links between academic research, farm production, and food industry to promote the development and uptake of leading-edge agricultural technology. The document references are set out in the table below.

Note that the CAP reforms from 2013 on were introduced during the period of the Conservative-Liberal Democrat coalition government; however, the relevant government department (Defra)

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has was held by the party of the subsequent administration and so some degree of policy continuity can be anticipated.

3.2 Analysing the data

These documents have been analysed to identify policy elements that contribute to the resilience of farming systems; these are subdivided into goals and instruments. While documents #1-#3 might in most circumstances be the source of insight into the former and #4-#9 into the latter, there are in fact some instances where the goals are identified in the later documents. Also, since some decisions had been already made on implementation, instruments can also be identified in the earlier documents.

Policy resilience attributes have been identified as relating to the short-, medium- and long-term; respectively, the documents have been analysed to identify goals and instruments which promote robustness, adaptability and transformability. These three dimensions are each assessed according to four different criteria. For robustness, these are short term focus, protecting the status quo, buffer resources, and other risk management measures. For adaptability, these are middle-long term, flexibility, variety and tailormade responses, and social learning. For transformability, these are long term, dismantling incentives that support the status quo, In-depth learning, and enhancing and accelerating niche innovations. The full sections of text coded under each heading are attached as an appendix to this document. The following paragraphs integrate the key issues that have emerged from coding the data.

Overall the impression gained from the documents is of a reluctant implementation of the CAP reform which is viewed as misaligned with the UK Government's overall objectives for agriculture. The CAP is portrayed as doing nothing for agricultural competitiveness, nor is it well-suited to encouragement of sustainable intensification necessary for meeting long-term goals of global food security, climate change mitigation and biodiversity conservation, but its distortions hamper farmers in utilising their resources for efficient production. Promotion of agricultural technology, on the other hand, is viewed as a means of resolving the agricultural trilemma, and also as an element of improving comparative advantage of the UK's international trading position.

Poor implementation of the previous CAP reform (2007-2013) had caused a public relations disaster, in terms of late and miscalculated payments and a heavy-handed and cumbersome set of rules that farmers had to follow. As a result, another prominent motif of policy has been simplification and ease of administration for farmers.

In terms of robustness, policies are notable for their omission rather than for their effect. The main theme for goals has been simplification, or at least reduction of unnecessary complexity.

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Thus, options for regional differentiation in payments, Areas facing Natural Constraints (see Matthews, 2018, for a commentary on the post-referendum twist of fate regarding non-implementation), and payments coupled to production levels were not adopted; and risk management policies including income stabilisation, insurance and mutual funds for adverse events have all been explicitly ruled out. Similarly, cross-compliance conditions were virtually unchanged compared with the previous programming period, apart from minor adjustments to conform with the implementing CAP reform regulation. The main buffer resources are provided through Pillar 2 for environmental conservation (although it can be inferred that these might also act as an income support tool: Lastra-Bravo et al, 2015). The single, simplified scheme provides targeting through a prioritised set of agro-ecological features, prioritising (using scoring methods) for other applicants, and a menu of small grants to offer to farms to improve or extend field margins and woodland, or for water quality improvements.

With regard to **adaptability**, goals of policy are to stimulate innovation, flexibility, and diversification of farm businesses. The 5% minimum reduction of basic payments applied was due to an unwillingness to disincentivise expansion, and young entrants and new farmers benefit from the maximum uplift in their basic payments as well as a national reserve to address anomalies. Simultaneously, however, basic payments were reduced through the high initial level of transfer from Pillar 1 to Pillar 2 of 12%, with a commitment to explore scope for an increase to the maximum of 15% by 2018. The transfer of around €1,7 billion supported a range of policies to promote adaptability, including measures to address the specific challenge of ensuring adequate skilled labour, easy transfers of basic payments between entitlement holders, flexibility in terms of contracts for the Countryside Stewardship scheme (including an option to develop collaborative schemes between farmers on a landscape scale). However, the overall impact of these measures to promote adaptability is likely to be relatively small compared with the volume of spending on traditional instruments.

The final, long-term resilience type, **transformability**, has been primarily addressed through policies which support wider and deeper uptake of technical change in agriculture (and the allied food industries that are closely integrated with it). The goals of policy have been to strengthen connections between researchers as generators of innovation and farmers as adopters of it, with strategic control vested in food chain stakeholder representatives. That approach also extends to technical advice on environmental management, which is seen as increasingly connected with agriculture through the goal of sustainable intensification by means of application of innovative technologies. The use of public money for delivering environmental goods and services has been viewed as much more justifiable than the direct payments of Pillar 1. While the goals of policy are clearly expressed, the instruments for implementing it are limited and time-honoured, with relatively inconsequential spending emphasis in CAP programmes and a tight network of cross-

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compliance regulations. The key feature of long-term transformative policy, The Agri-Tech Strategy, consists mainly of recycled finance from Defra's research budget and the Biotechnology and Biological Sciences Research Council. The private sector contribution is relatively small, and its chief merit is that is has consolidated and focused research effort against specific objectives.

3.3 Interpreting and scoring the data

Each element of the coded text presented in the Appendix has been scored according to a 5-point Likert scale. This ranges from a score of 1 for goals or instruments that appear to obstruct the characteristic, through those that appear to counteract, are neutral, enable, to a score of 5 for those that appear to encourage it. Provision is also made for a score of 0 where the effect of the goal or instrument is unclear.

Based on intersubjective judgement, an aggregate score was then attributed to each characteristic by resistance type. Table 2 sets out the extent to which goals and instruments enable or constrain characteristics of each resilience type, providing a summary justification for each score. These scores are then combined into the ResAT Wheel, Figures 2 and 3, accompanied by an overall evaluation of the approach and its outcome.

Table 2: Likert Scale Assessment of Policy Resilience

Question	Scale (0-5)	Arguments
ROBUSTNESS		
1a. To what extent is a focus on the short-term enabled or constrained by the policy goals?	1	All short-term changes in policy are explicitly ruled out.
1a. To what extent is a focus on the short-term enabled or constrained by the policy instruments?	0	No policy instruments appear to focus solely on the short-term.
2a. To what extent is protection of the status quo enabled or constrained by the policy goals?	1	The UK government finds the CAP rules irksome in terms of reaching its broader economic policy vision.
2b. To what extent is protection of the status quo enabled or constrained by the policy instruments?	3	Instruments that protect the status quo are mostly a continuation of the previous CAP. Any short-term changes are implemented so as to limit the degree of change.
3a. To what extent is the development of buffer resources enabled or constrained by the policy goals?	4	Goals are to redirect overall CAP resources into the most urgent macroenvironmental spill-overs; the farming system receives the same

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		resources, but the pattern of incentives is altered.
3b. To what extent is the development of buffer resources enabled or constrained by the policy instruments?	3	The system of agri-environment agreements targets the most important sites, with a two-tier scheme and scoring of applications. Woodlands and diffuse pollution are tackled separately.
4a. To what extent are other modes of managing risks enabled or constrained by the policy goals?	1	All risk management policies are explicitly ruled out.
4b. To what extent are other modes of managing risks enabled or constrained by the policy instruments?	0	No policy options for risk management are introduced.
ADAPTABILITY		
1a. To what extent is a focus on the middle-long term enabled or constrained by the policy goals?	4	The goal is to increase agri-environment spending through flexibility and then focus mostly on medium-term agreements. No other policy goals are adopted for the medium term.
1b. To what extent is a focus on the middle-long term enabled or constrained by the policy instruments?	4	Simplified rules and monitoring procedures for agri-environment and cross compliance.
2a. To what extent is flexibility enabled or constrained by the policy goals?	3	Agri-environment is the main policy goal, and maximum use of the flexibility in implementation has been made to achieve it. No other policy goals relate to flexibility.
2b. To what extent is flexibility enabled or constrained by the policy instruments?	4	Some scope for extending agri-environment agreements exists
3a. To what extent are variety and tailor-made responses enabled or constrained by the policy goals?	4	Diversification, including marketisation of environmental goods and services, are strongly promoted
3b. To what extent are variety and tailor-made responses enabled or constrained by the policy instruments?	4	There is a good range of options for productivity-enhancing investments and capital grants for environmental works, although the maximum amounts of grants are small.
4a. To what extent is social learning enabled or constrained by the policy goals?	5	Emphasis on participatory and peer-to-peer learning, with emphasis on skills promised. Agricultural engagement in LEADER is encouraged.

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4b. To what extent is social learning enabled or constrained by the policy instruments?	3	There is scope for participatory engagement in both innovation and rural development activities. There is also more emphasis on evacuation as a means of dynamic policy adaptation.
TRANSFORMABILITY		
1a. To what extent is a focus on the long term enabled or constrained by the policy goals?	5	The long-term foci of policies are human and natural capital integrity. The means envisaged for this are innovation and investment, delivered by profitable farm enterprises.
1b. To what extent is a focus on the long term enabled or constrained by the policy instruments?	4	Incentives are offered for young farmers and other new entrants, with extra basic payments. Innovative investments are supported. However, the scale of support is limited.
2a. To what extent is the dismantling of incentives that support the status quo enabled or constrained by the policy goals?	5	Policy goals are constrained by income subsidies, whereas much more emphasis is given to state support for public goods. Capping of payments is disliked.
2b. To what extent is the dismantling of incentives that support the status quo enabled or constrained by the policy instruments?	3	Very little scope for radical modification of the core CAP rules has been offered and thus policy instruments do not match the rhetoric of goals.
3a. To what extent is in-depth learning enabled or constrained by the policy goals?	5	There are commitments to innovate in environmental extension advice and in accelerating uptake of applied science. Localised knowledge is valued.
3b. To what extent is in-depth learning enabled or constrained by the policy instruments?	5	Substantial sums are invested to deliver new technologies and environmental advice to farms. Partnership with the agri-tech sector is exploited to prioritise and disseminate innovation.
4a. To what extent is the enhancement and acceleration of niche innovations enabled or constrained by the policy goals?	4	There is support for enhancing science-technology-adoption processes, and to facilitate farmer access to innovation.
4a. To what extent is the enhancement and acceleration of niche innovations enabled or constrained by the policy instruments?	4	Sums invested in promoting proof of concept are limited (and mostly recycled funds from previous commitments.

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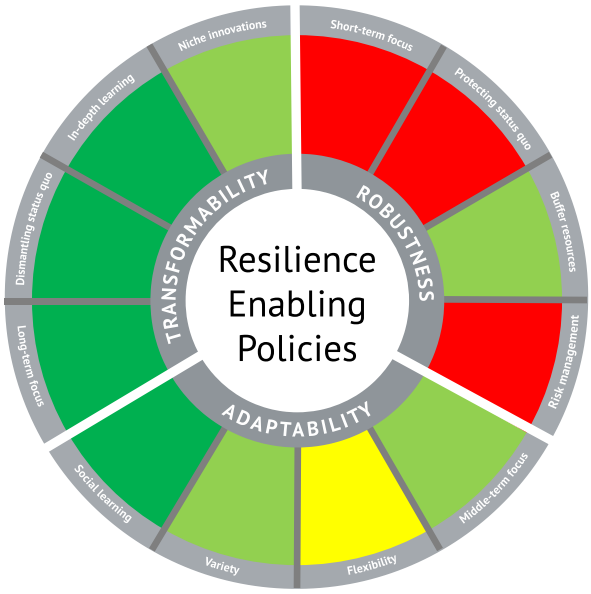
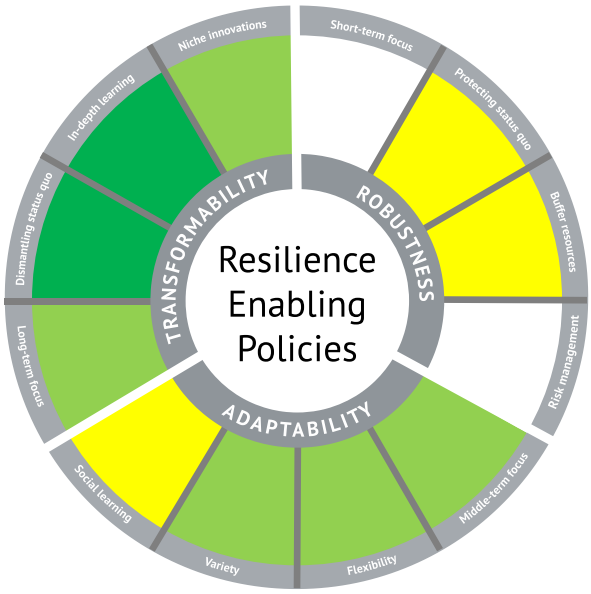
3.3.1 The ResAT Wheel for Policy Goals



3.3.2 The ResAT Wheel for Policy Instruments



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4 Concluding remarks

In terms of application to the issues outlined in Section 2, the narrative that emerges from the resilience assessment of agricultural policies is of enabling a medium- to long-term adaptation and transformation of farming away from the constraining and distorting effects of income support. It might be argued that the policy framework (though more in terms of goals than instruments) is oriented at the expense of undermining short-term robustness, and that the CAP provides at least a backstop to prevent over-rapid changes from subverting the core functions in the short time-frame.

In this light, it is interesting to consider how Engish agricultural policy might evolve on its journey away from the CAP after Brexit next year. As also noted in Section 2, the policy statement (Defra, 2018) develops and extends the themes outlined in this analysis. It advocates a phased reduction in the Basic Payments and a corresponding emphasis on "public money for public goods", and although the latter is not fully specified it is clear that the long-term goal is that it should be the sole public spending on agriculture. The remarkable questions that arise are two-fold. Firstly, the mechanism for valuing the public goods that are to be elicited by the successor policy instruments is not described, even in outline. Secondly, there is no commitment to channel current expenditure on Basic Payments into any alternative framework of agri-environment funding, which might indicate a rather less unwelcome Brexit dividend than any others that might accrue. However, Bateman and Balmford (2018) suggest that since the benefits exceed the costs by a factor of 4 to 1, in the public interest more spending than at present would be justified.

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Matthews, A., 2018. The ANC delimitation controversy continues. *CAP Reform Blog,* 1 February. Available at: http://capreform.eu/the-anc-delimitation-controversy-continues/ [Accessed 5 October 2018].

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Appendix: Coded texts from each policy document

Type of resilience	Key characteristics	Relevant texts for policy goals[3]	Relevant texts for policy instruments[2]
Robustness	1. Short term	we should not create any new regions nor amend the existing regional boundaries, in order to avoid unnecessary complexity in the transition to the new direct payments system [#2: 14] increasing the share of direct payments for the uplands under the Basic Payment Scheme offers the most effective and administratively efficient approach to support upland farmers and create greater equity [#2: 9] we will not be introducing payments linked to an ANC designation [#2: 17] The Government has decided not to introduce a coupled support scheme in England [#2: 23]	
	2. Protecting the status quo	CAP spending is not focused on helping the EU agriculture sector become more competitive and market-oriented. It also lacks focus on support for the	to achieve the best value for money, the minimum claim size for the new scheme should be fixed at five hectares [#2: 23] We are replacing the basic entry level scheme with a scheme which will target

[3] See Table 1 for key to policy documents; each coded text segment can be found on the page number referred to in the reference.

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Type of resilience	Key characteristics	Relevant texts for policy goals[3]	Relevant texts for policy instruments[2]
		environmental public goals implicit in sustainable intensification [#1: 36] scheme rules are set out in the European regulations and we have no choice other than to follow them [#2: 6] We successfully fought off the European Commission's proposal to require payments to be capped [#2: 17] increasing the share of direct payments for the uplands under the Basic Payment Scheme offers the most effective and administratively efficient approach to support upland farmers and create greater equity [#2: 9] we think that we should minimise distorting influences on the decisions that farmers take about the management of their farms [#2: 9] we should minimise distorting influences on the decisions that farmers take about the management of their farms, so as to avoid adversely affecting the competitiveness of our farming industry [#2: 19] We have consistently argued that the direct payments system should not provide disincentives to farms from expanding if that is appropriate commercially for them	improvements and maintain landscapes that underpin rural tourism; help to provide resources for farmland birds and pollinators; and tackle at source water pollution that would otherwise add costs to water companies and water bills [#3: 3] There was a clear preference for (the permanent grassland measure, which prevents the conversion or ploughing up of designated environmentally sensitive grasslands in Natura 2000 sites) to be implemented at the national (rather than farm) scale … we are taking the opportunity to announce now that this measure will be implemented at the national level [#3: 24] Land parcels with solar panels on them will not be eligible for the Basic Payment Scheme (BPS). This includes the land between, underneath and around the panels, even if it is being grazed, or is accessible for grazing [#6: 2]

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Type of resilience	Key characteristics	Relevant texts for policy goals[3]	Relevant texts for policy instruments[2]
		to become competitive in the marketplace [#3:13]	
	3. Buffer resources	a single new (environmental land management) scheme with two main themes. First the improvement or maintenance of the most important designated sites …. Second, targeted improvements in the wider countryside, including more landscape scale co-ordination in line with the Natural Environment White Paper vision to support wildlife, and continuing focus on improving water quality. [#2: 9] (the) overall approach to greening is consistent with the Government's view that it is Pillar II of the CAP which provides the optimum mechanism to fund the majority of environmental outcomes from English farmland [#2: 31] Increasing the competitiveness and efficiency of our farming, forestry and land-based sectors [#2: 39] We want to improve the farmed environment … We are refocusing spending within the rural development programme towards the environment. [#3: 76]	Managing the environment (:) you will be able to apply for funding to restore, conserve and enhance our natural environment. The new scheme will offer: • site specific agreements similar to the current Higher Level Stewardship (HLS) scheme • area specific agreements aimed at targeted improvements in the wider countryside • multi-annual agreements, normally for 5 years – but these could be longer if benefits take longer to achieve • a choice of management options, capital items and advisory support (depending on the agreement type) • annual small-scale grants for certain activities – such as hedgerow laying, coppicing and gapping up, or stone wall restoration [#4: 8] farmers in England will be able to choose from hedges, nitrogen-fixing crops, catch/cover crops, buffer strips and fallow land in order to comply with the new greening requirements. [3]

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Type of resilience	Key characteristics	Relevant texts for policy goals[3]	Relevant texts for policy instruments[2]
		Overall, biodiversity will be the priority for the new (environmental land management) scheme with water also an important area of focus. [#5:3] Countryside Stewardship is open to all, but we want to reward land management that gets the best results for the environment … Most applications for Countryside Stewardship will be assessed and scored (the exceptions are applications for capital grants for woodland management plans and capital grants for tree health issues). [#7: 21]	5-year voluntary contracts … able to apply for the scheme in three ways: 1. On the most environmentally important sites, holdings and woodlands … 2. For any other holding or … through a competitive online application process … A range of capital grants will be funded from 2016 [#5: 4] Farmers must protect soil by having a minimum soil cover [#6: 4] Minimum land management reflecting site-specific conditions to limit erosion [17]
	4. Other risk management measures	We do not see a rationale for intervention in income stabilisation tools; support for crop, animal and plant insurance; mutual funds for adverse events, animal and plant diseases, pest infestations and environmental incidents [#2: 40]	
Adaptability	1. Middle-long term	Pillar 2 … can make a significant contribution to improving the environment, investing in farming competitiveness and growing the wider rural economy in England … to do this effectively would require a transfer of funds from Pillar 1 to Pillar 2 at the maximum available level of 15% [#2: 7] Restoring, preserving and enhancing our natural environment [#2: 39]	**The normal length of (land management) agreements would be five years [#2: 44]**

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Type of resilience	Key characteristics	Relevant texts for policy goals[3]	Relevant texts for policy instruments[2]
		We want to improve the farmed environment [#3: 2]	
	2. Flexibility	we have options on how we implement elements of CAP [#2: 6] Pillar 2 … allows for longer term land management agreements and more flexible interventions that are adjusted to the specific potential of any given area of land [#2: 7] We want to make sure that applying for investment through the next Rural Development Programme is as simple and straightforward as possible [#2: 40] We will take the opportunity to simplify processes (or applying for Rural Development funding) where EU legislation allows and will aim to make processes as simple, effective and affordable as possible while minimising disallowance [#3:40]	We also propose offering area specific or landscape scale agreements … expected to respond to the opportunities identified in their area through a national targeting framework. [#2: 42-3] the Government will, in each year of the CAP period from 2014 to 2019, transfer 12% of the budget from Direct Payments to farmers (Pillar 1) to Rural Development (Pillar 2). A review will be held in 2016 into the demand for agri-environment schemes and the competitiveness of English agriculture with the intention of moving to a 15% transfer rate in 2018 and 2019, the final two years of the CAP period. [#3:4] we have decided to operate the reduction scheme with the minimum level set out in the regulation – that is, 5% on basic payment amounts above €150, 000 [13] You will be able to sell or lease your BPS entitlements to someone else, as long as they are an active farmer. You can do this from mid January 2015 [#4: 4] The value of entitlements will be calculated before payments begin each year. The value

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			of SDA entitlements will be almost the same as non-SDA. The value of these entitlements will be lower than for SPS as 30% of the budget for each region will be used for the greening payment and 2% for the young farmer payment. [#6: 12] Approximately 3% of the total BPS budget for England will be used to set up a 'national reserve' in 2015. Each year, a national reserve will be used to create entitlements for young farmers and new farmers. [#6: 15]
	3. Variety and tailor-made responses	we need … to look for opportunities to develop new markets for ecosystem services [#2: 9] our approach will be to look for the maximum opportunities to achieve multiple benefits through the same investment, for example, investments in water quality that will also benefit biodiversity, or landscape scale projects that deliver multiple benefits [#2: 41] … a scheme to support productivity in the farming, forestry and other land-based sectors could focus on all or some of the following objectives: Supporting innovative practice, knowledge transfer and	through RDP funding for productivity in the farming and forestry sectors we particularly want to support: innovation, including the application of new technologies and practices … continued development of advanced technical and general business management skills … improved resource efficiency … improved animal health and welfare … more active management of English woodlands [#3: 59-60] We'll have around £140 million to support farming and forestry businesses. You will need to bid for a share of this funding to: • help you innovate, use new technology and use the latest research in your business

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		cooperation … Improving business performance and practice within the farming and forestry sectors … (including) Supporting effective succession of businesses and support for new entrants in building their businesses successfully in the early years … Supporting improved environmental performance, resilience and efficiency [#2:47-48] we will be putting a much stronger focus on jobs and growth [#3: 3] We will make 5% of the new Programme directly available to Local Enterprise Partnerships through the Growth Programme [#3: 77]	• improve your skills and training • co-operate and collaborate with other farmers, foresters and others in the land-based sectors • support projects that benefit the environment in a number of ways. For example, to help you tackle environmental problems as well as improve the amount or quality of your agricultural produce [#4: 9] (Countryside Stewardship: Capital grants) are separate to the capital grants offered through the Higher Tier or Mid Tier. The grants are for: • hedges and boundaries • tree health issues • woodland management plans • woodland creation establishment (with associated multi-year agreement for maintenance where applicable) • feasibility studies • implementation plans There will also be targeted grants, with associated advice, for water quality improvements. [25] Water capital grants … of up to £10,000 per holding, for

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			Infrastructure works which will help reduce water pollution from agriculture. [#7: 26] Woodland creation grants … Planting, protecting and (where applicable) maintaining woodland for 10 years. [#7: 26]
	4. Social learning	We recognise the importance of skills in rural areas and for the farming and forestry sectors and consider that this should be an important focus for the (Rural Development) programme [#3: 62]	**The agri-tech sector will build on the work of the Agri-Skills Forum, Lantra and the Agriculture and Horticulture Development Board (AHDB) to:** • **improve clarity and communication of available training and advice** • **establish and communicate the future skills needs for the sector** • **participate in the design and investment in courses and vocational training [#1: 35]** (In relation to LEADER we will) develop an improved monitoring and evaluation framework for the new Programme [#3: 35]
Transformability	1. Long term	build a stronger skills base through industry-led actions to attract and retain a workforce who are expert in developing and applying technologies [#1: 8] Promoting growth, productivity and improving environmental performance [#2: 39] Inefficient use or degradation of natural capital assets (such as degraded soils, declines in pollinators or polluted or scarce	Young farmer payment … will give extra money to young farmers, on top of their BPS and greening payments … you must be 40 years of age or younger in the first calendar year you apply for a BPS payment (and) need to be an active farmer and in control (or joint control) of your holding … You will be eligible to receive a young farmer payment for up to 5 years after the year you started or took over control of

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		water) will act as a break on business competitive and long term sustainability and could lead to missed opportunities, as well as increasing their environmental footprint. [#2: 98]	your business … The value of the top-up will usually be worth 25% of the average value of all the entitlements you hold. You can claim it on up to a maximum of 90 entitlements. [#4: 4-5] Under this new (Countryside Productivity) scheme, around £141m will be invested into the English countryside from 2015 to 2020. In early 2015, we plan to make money and advice available for: … investing in innovative equipment … Later in 2015 we intend that money and advice will be available for: … new-entrant young farmers and new farm-related businesses … groups of farmers, foresters, researchers and other businesses to test new ideas and apply research through a new European Innovation Partnership process … 'demonstration farms' that showcase the latest farming innovations and technologies … developing skills through events training, workshops and other forms of learning …joint project working between large numbers of farm or forestry businesses who want to combine training, advice, investment and exchange of knowledge [#7: 33-34]

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	2. Dismantling incentives that support the status quo	remaining subsidies are market-distorting and do not encourage capacity building, competitiveness and resilience amongst EU farmers [14] increase the productivity and efficiency of farming and forestry businesses, in order to improve their competitiveness and reduce the reliance of farmers and land managers on subsidies [#1: 36] rewarding farmers for the environmental goods they provide is a much better use of taxpayers' money than providing direct subsidy [54] the capping of farmers' direct payments … would add a significant amount of administrative complexity for farmers and paying agencies, would be a distraction from our objective of reducing subsidy across the board and would run counter to the development of a competitive agriculture sector by providing an incentive for farms to remain small. [#2: 17]	If your BPS payment (excluding greening and any young farmer payment) is over £150,000 in a single year, we'll reduce any money you get above that amount by 5%. [#5: 4] (The) new greening payment … will be worth about 30% of your total payment … you will need to meet the greening rules [#5: 5]
	3. In-depth learning	improve the translation of research into practice [#1: 8] Promoting knowledge transfer, cooperation and sharing of best practice [#2: 39]	The Government will establish a Centre for Agricultural Informatics and Metrics of Sustainability, at an estimated cost of £10 million [#1: 33]

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		We will continue to develop approaches to the provision of advice in the new environmental land management) scheme which reflects the potential for delivery via the digital medium and the private sector in consultation with stakeholders [#3: 55] Driving innovation (including through supporting applied and translational research) to increase food production at the same time as improving the environment is a priority for the Government [#3: 64] we recognise the value of local input and refinement of this targeting (environmental land management) framework [#3: 54]	The agri-tech sector will improve co-ordination and integration of on-farm demonstrations and use of demonstration and monitor farms to share best practice [#1: 35] £90 million investment in the Sustainable Agriculture and Food Innovation Platform (SAF-IP) has gone some way to bridging the funding gap [#1: 29] The Government will invest £90 million over five years to establish a small number of Centres for Agricultural Innovation to support advances in sustainable intensification [#1: 30] The Government will work in partnership with the agri-tech sector in the design of the next Rural Development Programme to identify opportunities to support skills development and knowledge transfer [#1: 35]
	4. Enhancing and accelerating niche innovations	rebuilding the connection between basic research and applied science to create modern systems that allow our own farmers to access agri-tech expertise and use innovative techniques [#1: 3]	The Government will invest £60 million through the TSB and BBSRC to establish in partnership an Agri-Tech Catalyst to support the 'proof of concept' development of near-market agricultural innovations [1#: 30]

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		faster and more widespread adoption of best practice and innovation across farming systems [#1: 9] Promoting knowledge transfer, cooperation and sharing of best practice [#2: 39] Innovation will be an important theme in the programme [#2: 50]	

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