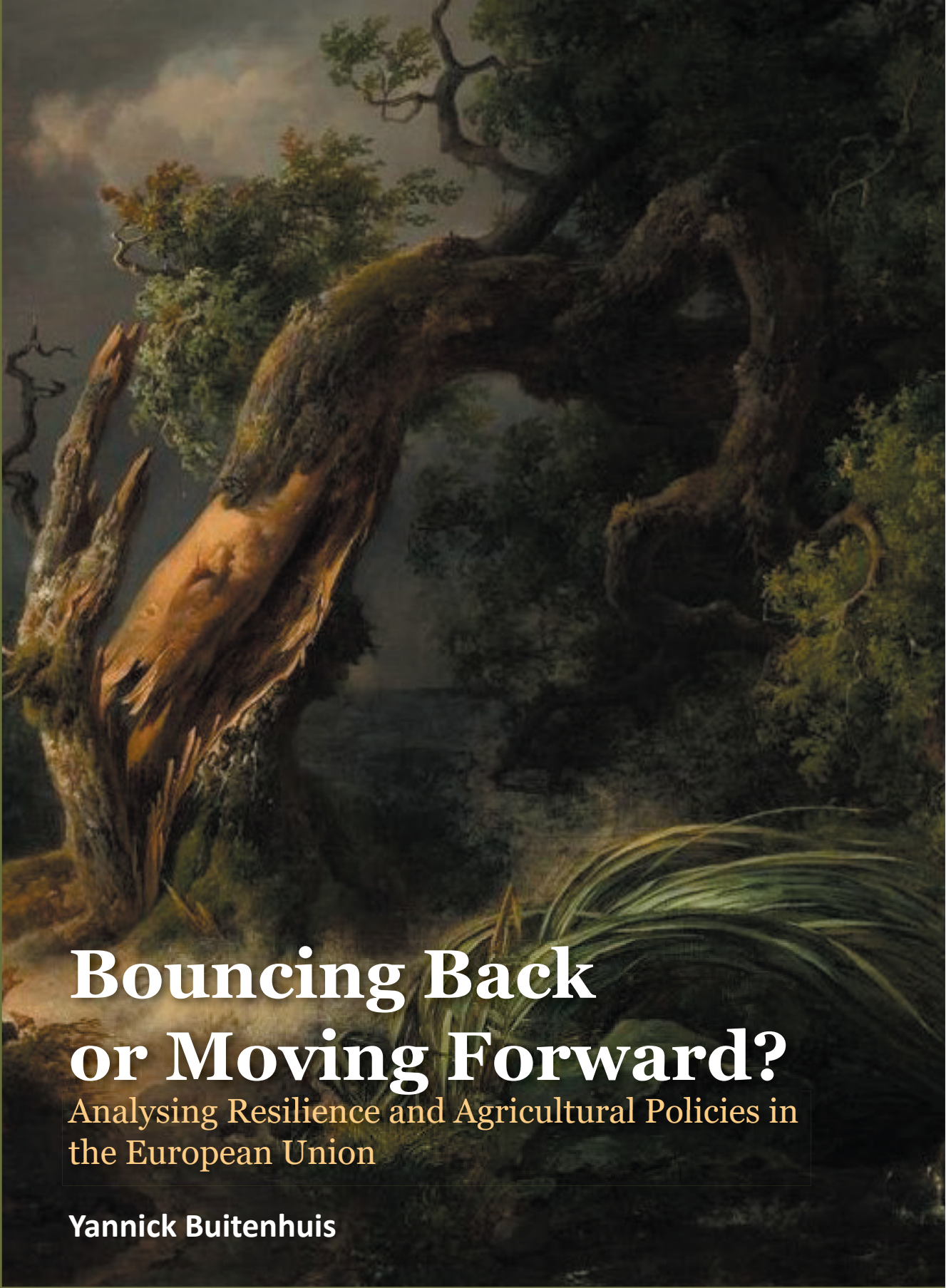

# Bouncing Back or Moving Forward?

## Analysing Resilience and Agricultural Policies in the European Union

Yannick Buitenhuis

## Propositions

1. A narrow interpretation of resilience contributes to status-quo-oriented policy that undermines chances for farming systems to adapt or even transform.
   (This thesis)

2. Genuine resilience thinking for policymaking demands contemplating and gaining in-depth knowledge of the local context of the targeted system.
   (This thesis)

3. Sociology, behaviour, and communication experts are indispensable for scientific advisory bodies to effectively bridge the gap between scientific advice and society.

4. Interdisciplinary research arranged around a common topic to move beyond disciplinary silos creates new topic-centred silos instead.

5. By overemphasising the competitive element of doing scientific research, the academic community is burning bridges for attracting a young generation of researchers.

6. Hazardous to democracy are the policies and policymaking that are indifferent to compassion, values, feelings, and experiences of humans.

Propositions belonging to the thesis, entitled

Bouncing Back or Moving Forward? Analysing Resilience and Agricultural Policies in the European Union

Yannick Buitenhuis

Wageningen, 13 September 2022

# Bouncing Back or Moving Forward?

## Analysing Resilience and Agricultural Policies in the European Union

Yannick Buitenhuis

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This research was conducted under the auspices of the Wageningen School of Social Sciences (WASS)

# Bouncing Back or Moving Forward?

## Analysing Resilience and Agricultural Policies in the European Union

Yannick Buitenhuis

**Thesis**

submitted in fulfilment of the requirements for the degree of doctor
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# Abstract

The resilience of European farming systems is increasingly being put under pressure due to social, economic, and environmental challenges. These challenges make it difficult for farming systems to maintain delivering their public and private goods. Scholars and practitioners therefore call for strengthening farming systems' resilience through EU agricultural policy. However, research to understand the link between resilience and public policies has remained scarce. This dissertation aims to expand the scientific knowledge on how EU agricultural policies, especially the Common Agricultural Policy (CAP), influence farming systems' resilience, consisting of three capacities: robustness, adaptability, and transformability. The central research question of this dissertation is: ***How does EU agricultural policy shape the resilience of European farming systems?*** The research in this dissertation was guided by four sub-questions: (1) how do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system?; (2) how do actors at the farming-system level experience the influence of policies on the resilience of farming system cases in Flanders, the Netherlands, Poland, Spain, and the UK?; (3) how is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames?; and (4) what policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers?

This dissertation concludes that EU agricultural policy, headed by the CAP, largely puts forth a one-sided way to strengthen resilience and, therefore, shapes the resilience of European farming systems with uneven and adverse effects. The policy is focused on ensuring that farming systems can bounce back to a familiar situation after short-term shocks by resorting to familiar and conventional policy interventions, which are often insufficient to support adaptability or

transformability. Given various long-term challenges, such as climate change, biodiversity loss, or rural development issues, as well as the unsustainability of certain practices or farming systems, EU agricultural policy should move forward towards supporting adaptive or transformative measures. Shaping resilient EU farming systems requires a redesign of EU agricultural policy based on a better balance between robustness-, adaptability-, and transformability-enhancing goals and instruments. The chapters in this dissertation offer recommendations for improving the resilience-enhancing capabilities of EU agricultural policy and discuss how these recommendations are reflected in the CAP post-2020 reform and the EU's Green Deal. This dissertation ends by reflecting on why it is necessary to politicise the resilience debate for agricultural policymaking.

# Acknowledgements

*"Be naive enough to start, and stubborn enough to finish"*

At the time when I was writing the last chapter of my dissertation, I came across the above quote on a social media platform. This quote reminded me of my own PhD experience. I dare to say that I started my PhD research quite as a 'brookie'. I was not entirely aware of all the details involved in doing four years of PhD research, but I knew that I wanted to do well at the highest academic level. Over the past four years, I learned a lot about doing academic research: things that I really enjoyed but also things that required me to carry through. However, it has been a journey that I am glad to have partaken, allowing me to grow as a young professional. Whereas finishing my PhD dissertation has often felt as an individual quest – especially during two years of COVID-19 pandemic - I have received plenty of support along the way from colleagues, friends, and family members.

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proven to be very valuable for me during my own research. I appreciated your (critical) insights, which have always helped me to improve my work. I am glad that we could continue our collaboration after you returned to Germany.

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thinking along, or just by simply listening to me lecturing or complaining (with or without a beer). Doing a PhD research can be quite a solitary experience; however, I am glad that I had you near me during my PhD journey. Thank you for all your support!

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# Table of Contents

# Chapter 1

# Introduction

## The Oak & the Reeds

A violent storm uprooted an Oak that grew on the bank of a river. The Oak drifted across the stream, and lodged among some Reeds. Wondering to find these still standing, he could not help asking them how it was they had escaped the fury of a storm which had torn him up by the roots. "*We bent our heads to the blast,"* said they, *"and it passed over us. You stood stiff and stubborn till you could stand no longer."*

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Aesop
(c. 620–564 BCE)

In *Aesop's fables*, edited by Joseph Benjamin Rundell (1874, p.59)

# 1. Introduction

The fable of 'the Oak & the Reeds' by Aesop tells us a story about contrasting behaviour between the oak and the reeds and how to deal with turbulent times. While the oak trusted in his strength that helped him stand tall in the past when the wind rustled his leaves, he fell when the wind changed into a storm. The oak could not cope with the increased force of the wind. In contrast to the oak, the reeds were able to stand upright again after the heavy storm had passed. They remained secure by bending with the wind, by being flexible and adapting to the changed situation. The moral of this fable fits with the notion of resilience: change is inevitable and sometimes unexpected. Ignoring or resisting change may seem appropriate at first, but may also increase your vulnerability, coming at the expense of emerging opportunities (Walker & Salt, 2012; Baggio et al., 2015; Darnhofer, 2021B). In this regard, resilience does not only entail stability and maintaining an existing equilibrium, but also emphasises adjustments and change as essential parts to successfully respond to (unexpected) challenges (Davoudi et al., 2012; Folke, 2016). Resilience comprises both the ability of a system to 'bounce back' after a shock to return to the status quo, as well as the ability to 'move forward' by changing the system when required.

## 1.1 Background & problem outline

### *1.1.1 The resilience of EU farming systems is being put under pressure*

Farming systems in Europe are increasingly facing a multitude of complex and interrelated economic, social, and environmental challenges. For example, short-term shocks such as price volatility or changes in market access affect the income of farmers (Thorsøe et al., 2020) but also extreme weather events have detrimental effects on crop yields (Powell & Reinhard, 2016; Beillouin et al., 2020). Another example, still fresh in mind at the time of writing, is how

the COVID-19 pandemic and the containment measures caused a shock that suddenly disturbed food production, processing, and marketing (Meuwissen et al., 2021; Sibbing 2021). Long-term stresses, such as climate change and its impacts (Ray et al., 2019; Van Passel et al., 2017), loss of biodiversity and ecosystem services (Pe'er et al., 2020; Vermunt et al., 2020), or generational renewal (Coopmans et al., 2020; Coopmans et al., 2021) are simultaneously affecting the long-term viability of farming systems. Whereas these shocks and stresses on their own are already complex issues, they all have in common that they put farming systems and their ability to deliver essential functions under pressure.

Farming systems are regional networks of comparable types of farms and other non-farm actors who interact formally and informally in a specific agro-ecological context (Giller, 2013; Meuwissen et al., 2019). Actors that constitute a farming system are, inter alia, farmers and family members, farmers' organisations, service suppliers, and supply chain actors. These actors are together responsible for whether their farming systems can serve different essential functions for society through the provision of *private goods* (e.g., producing food or other bio-based resources, including fuels and fibres; providing employment and income) and *public goods* (e.g., maintaining natural resources and rural landscapes; protecting biodiversity; ensuring animal health and welfare) (Meuwissen et al., 2019, 2020). Moreover, farming systems are open systems, meaning that they are linked to social networks, economic processes, institutions (e.g., public policies), and an agro-ecological context that form the surrounding environment in which the system operates (Darnhofer et al., 2012; Ison, 2012). A farming system's environment can both enable or constrain its ability to provide the desired private and public goods in the face of adverse developments, for instance, by providing opportunities or by increasing systemic vulnerabilities (Termeer et al., 2019; Mathijs & Wauters, 2020). Both the internal characteristics of a farming system, as its enabling or constraining environment will influence its ability to maintain its desired functions under pressure.

By focusing on farming systems as the level of analysis, this dissertation follows the Horizon2020 SURE-Farm (Towards **SU**stainable and **RE**silient EU **FARM**ing systems) Project's approach to study the resilience and sustainability of the European Union's (EU) agricultural sector. Farming systems are a suitable level for addressing resilience compared to the farm level, as they allow for a focus on the regional context, including its specific social and environmental elements that largely determine farming systems' functions and their challenges (Carpenter et al., 2001; Meuwissen et al., 2020). Moreover, the regional contextual characteristics of farming systems often aggravate or mitigate the effects of certain shocks or stresses (Saifi & Drake, 2008; Meuwissen et al., 2019), and influence the available and preferred options to respond to these challenges accordingly (cf. Dengerink et al., 2021). For instance, Meuwissen et al. (2019), citing the work of Diogo et al. (2017), elaborate that the economic impact of droughts is determined by regional factors, such as the soil type and quality, cropping patterns, the regional irrigation infrastructure, the uptake of crop insurance, and the flexibility of credit providers or supply chain partners.

While agri-food research and public policies are progressively concentrating more on food systems to develop sustainable solutions for sufficiently produced and healthy food (e.g., Hospes & Brons, 2016; Candel & Pereira, 2017; Ingram & Zurek, 2018), focusing on the farming-systems level for understanding resilience is appropriate. The earlier mentioned challenges are of course not exclusive to farming systems, but also affect food systems at large. However, EU agricultural policy has traditionally and predominately focused on farmers and their farms to interpret and deal with agri-food-related shocks and longer-term challenges. Only recently the food system approach is setting foot in EU policymaking through, for example, the *Farm-to-Fork Strategy* in 2020. Moreover, realising resilient food systems requires that the base of the system, i.e., the food production enabled by regional farming systems, is functioning properly in its current and future context.

Therefore, enhancing resilience includes supporting local farms and regional farming systems in their efforts to manage and respond to different shocks and stresses while maintaining their essential functions. Accordingly, farming systems offer the specific context and challenges which are necessary for properly understanding resilience.

### *1.1.2 Conceptualising the resilience of farming systems*

Over the last few decades, the concept of resilience has emerged in scientific discussions and policy contexts across various fields, such as ecology, psychology, disaster and crisis management, engineering, natural resource management, and agriculture and rural development (Baggio et al., 2015; Davidson et al., 2016; Sinclair et al., 2014; Ashkenazy et al., 2018). The resilience concept has even received so much attention that Moser et al. (2019) speak of an exponential growth in attention in scholarship and practice (**Figure 1.1**). Searching for the term resilience in online search engines results in millions of hits, of which a significant number are scientific publications (Moser et al., 2019). The concept of resilience is increasingly gaining attention in different research fields and practices, and it has become clear that the concept is on the rise.

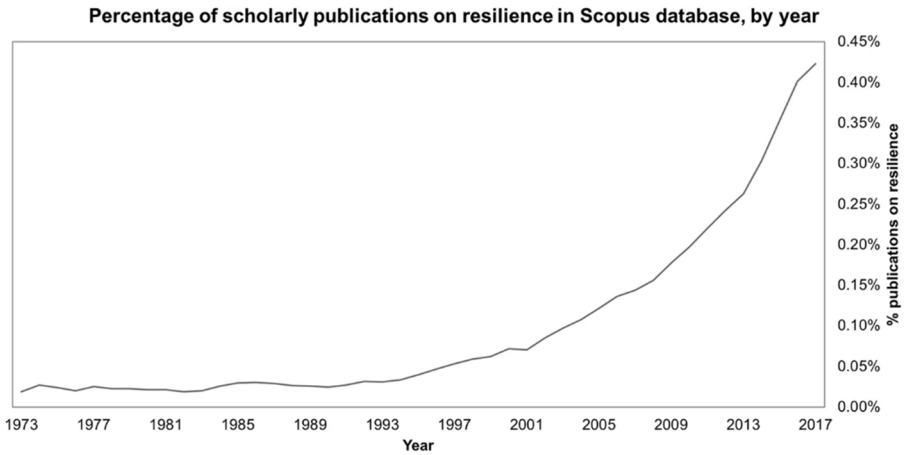


**Figure 1.1**: *Number of scholarly publications on resilience entered into Scopus (1973-2016) (Moser et al., 2019)*

Whereas resilience can be understood in various ways depending on the research field, two predominant ways of understanding the concept are often discussed in the literature (Holling, 1973; Davoudi et al., 2012). First, resilience is mainly understood as the capacity of a system to resist shocks or disturbances and the ability to recover rapidly to a perceived normal (Holling, 1973; Davoudi et al., 2012; Urruty et al., 2016). This understanding of resilience, sometimes defined as engineering resilience, is particularly common in the fields of risk and disaster management (Barr & Devine-Wright, 2012; Scott, 2013). The focus of this type of resilience is to ensure that the system can endure crises, like natural disasters (e.g., earthquakes or flooding), armed conflict, terrorism, or disease outbreak, without experiencing major change to the system afterwards. This understanding links resilience to the ability to resist and recover from shocks and changes in the short-term: *"The faster the system bounces back, the more resilient it is."* (Davoudi et al., 2012, p.300).

Second, particularly in socio-ecological systems scholarship, resilience also entails the capacity of a system to adapt or transform in response to shocks or stresses to maintain its functions (Walker et al., 2004; Davidson, 2010; Folke et al., 2010). Whilst this understanding of resilience also includes the ability to persist disturbances, it emphasises that change is ever-present and often unpredictable due to the systems' dynamic environment caused by human-ecosystem interactions (Sinclair et al., 2014; Duijnhoven & Neef, 2016; Folke, 2016; Darnhofer, 2021A). A resilient system can deal with the unexpected by learning from the changing circumstances, or by adjusting or fundamentally changing its different components to ensure it can function in the future (Darnhofer, 2014; Folke, 2016; Walker, 2020). Resilience *"is all about changing in order not to be changed."* (Walker, 2020, p.1). Despite the differences in roots and initial focus, both understandings reason that systems can cope with changing environments and uncertainty by being resilient, be it by quickly 'bouncing back' after a shock or by 'moving forward' by embracing change (Davoudi et al., 2012).

However, the resilience concept has been criticised, especially when the concept is defined and used in relation to social systems (e.g., Cote & Nightingale, 2011; Davoudi et al., 2012; Brown, 2014; Biesbroek et al., 2017; Dewulf et al., 2019). For instance, critics of the resilience concept claim that its multidisciplinary character allows actors to attach almost any meaning to it to justify any specific objective or to suit any agenda (Manyena, 2006; Weichselgartner & Kelman, 2014; Anholt & Sinatti, 2020). Moreover, the understanding that resilience means maintaining the functioning of an existing system in face of disturbances has implications for farming systems, because it mistakenly presumes that the current system is without faults. Resilience might therefore potentially reinforce a system's status quo, that supports existing unsustainable values, current inequities, and incumbent actors (Harris et al., 2018, Moser et al., 2019; Darnhofer, 2021B). In addition, Darnhofer (2021A) argues that a strong focus on maintaining the current system implicitly suggests that change is a negative phenomenon caused by external drivers, such as shocks, disturbances, or stresses. Change is therefore largely regarded as undesirable and disturbing to a farming system's stability rather than as an opportunity to move towards more desirable systems (Darnhofer, 2021A). Whereas maintaining well-performing functions of the existing system is relevant, it might be more appropriate to do so by implementing adaptations or changes. For example, farming systems may want to adapt or change due to the increasing unpredictability of shocks and stresses, the acknowledged negative social and environmental impacts of certain farming practices, and the societal pressure to change these practices. By including change as an integral part of resilience, resilience thinking offers a conceptual lens that accepts that change is omnipresent, often unpredictable, and might ask of complex systems to keep their options open (Holling, 1973; Sinclair et al., 2014; Duijnhoven & Neef, 2016; Folke, 2016).

This dissertation therefore builds on concepts rooted in social-ecological systems analysis (e.g., Folke, 2006) and the SURE-Farm Project (see Meuwissen et al., 2019) to conceptualise farming systems' resilience. Resilience is a farming system's capacity to manage and respond to challenges, both foreseeable stresses and unexpected shocks, while maintaining its essential functions of providing private and public goods. Additionally, I distinguish between three complementary resilience capacities (e.g., Folke et al., 2010; Anderies et al., 2013; Knickel et al., 2018; Meuwissen et al., 2019): robustness, adaptability, and transformability. *Robustness* is the capacity of the system to resist external perturbations and to maintain previous levels of functionality, without major changes to internal elements and processes (Urruty et al., 2016). *Adaptability* is the capacity of the system to adjust internal elements and processes in response to changing external circumstances. The system can continue to develop along the original trajectory, while maintaining important functionalities (Folke et al., 2010). *Transformability* is the capacity of the system to change fundamentally, particularly when structural changes in the ecological, economic, or social environment make the existing system untenable to provide important functionalities (Walker et al., 2004).

Conceptualising resilience through robustness, adaptability, and transformability extends the understanding of resilience beyond only maintaining equilibrium, as adjustments and change are also essential for the resilience of farming systems. Whereas certain challenges might require farming systems to strengthen their robustness, farming systems might be better able to preserve essential functions by adapting or transforming in case of other types of challenges. A resilient farming system can strike a right balance between being robust to maintain desired functions and being able to adapt or transform in response to shocks or stresses, even if they are unexpected or accumulate.

### *1.1.3 EU agricultural policymaking: The Common Agricultural Policy and adjacent policies*

In view of (un)expected times and the earlier mentioned challenges, there is an increased recognition that farming requires change to continue providing us with healthy and sustainable food and other agri-commodities in the future (Pe'er et al., 2020; De Zwarte & Candel, 2020; Rotmans & Verheijden, 2021). Likewise, an increasing sense of urgency about how to deal with unanticipated shocks and lasting stresses in the EU has resulted in a call for strengthening resilience and enabling transitions through EU agricultural policies. For instance, resilience has been emphasised as leading principle for the reform of the EU's *Common Agricultural Policy* (CAP) after 2020 (European Commission, 2018A, 2018B). Moreover, the European Commission under President Von der Leyen (2019 - present) introduced the *Farm-to-Fork Strategy* as part of the *Green Deal* to initiate a transition towards fair, healthy, and environmentally friendly EU food systems and to strengthen their resilience (European Commission, 2020A; 2020B). The notion of resilience as a way for systems to deal with complex and unpredictable disturbances to ensure the future of farming and farming systems has thus found its way into EU agricultural policymaking.

The EU has been supporting the agricultural sector through agricultural policymaking since the introduction of the CAP in 1962, which has grown into one of the largest and the most expensive policy fields of the Union (Skogstad, 1998; Nello, 2012). The CAP has undergone five major reforms to adapt the policy in accordance with the current needs in agriculture and society at that time as well as to try to correct for unintended policy effects. Whereas the CAP was not originally designed with resilience intentions in mind, its design certainly has effect on if it enables or constrains the resilience capabilities of farming systems in the EU. The CAP operates at the European, national, and regional level and has replaced national agricultural policies in many Member States (Polman, 2020).

The CAP has had five main objectives, as set out in Article 39 of the Treaty on the Functioning of the European Union (TFEU): (1) increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; (2) ensure a fair standard of living for farmers; (3) stabilise markets; (4) assure the availability of supplies; and (5) ensure that supplies reach consumers at reasonable prices. These objectives have been reconfirmed in CAP reform rounds whilst new aims such as ensuring food security and contributing to sustainable agriculture and rural development in Europe have been added (European Commission, 2021B).

To pursue these aims, the CAP uses different policy instruments divided between two pillars and offers a certain level of flexibility for Member States to decide on its national implementation. Pillar I provides *income support* for farmers and *market management measures*. The income support consists largely of area-based direct payments to farmers and the market measures entail, e.g., public intervention, options for crisis management, and sector-specific aid schemes. Pillar I is fully funded by the EU through the European Agricultural Guarantee Fund (EAFG). Pillar II supports the *Rural Development Programs* (RDPs), containing various instruments such as agri-environmental measures, investment support, support for innovation partnerships or rural development groups. These instruments are co-funded by the European Agricultural Fund for Rural Development (EAFRD) and the Member States (European Commission, 2021B). The CAP is through its budget structure, its design, and its implementation of the various instruments of major influence on the functioning of EU farming systems.

Over the years, the CAP has already undergone several changes through reform rounds, the most recent being the CAP 2013 Reform and CAP post-2020 Reform. However, the final outcomes of CAP reforms have often been critically analysed. For example, environmental non-governmental organisations (NGOs) and

academics have critiqued the limited effectiveness of the CAP and its greening measures for achieving climate and environmental objectives (e.g., Heinemann & Weiss, 2018; Pe'er et al., 2019; Pe'er et al., 2020; Birdlife Europe et al., 2021). This point of critique has also been emphasised by the European Court of Auditors (e.g., ECA, 2017). Moreover, the reform rounds hardly seem to introduce substantive change in the CAP but mostly reinforce policy elements that retain the status quo or justify special treatment of the agricultural sector (e.g., Feindt, 2010; Lowe et al., 2010; Swinnen, 2015B; Alons & Zwaan, 2016; Alons, 2017; Greer, 2017). An often-mentioned example is the continuation of income support through the area-based direct payments despite having contentious effects, e.g., increasing farmland prices, funds leaking to non-farming actors, unfair distribution, and not contributing to reaching environmental objectives (Ciaian et al., 2016; Heinemann & Weiss, 2018; Matthews, 2019). Member States have also complained that the CAP brings high administrative burdens and implementation costs, and that the policy's uniform approach does not seem to fit with the individual countries' agricultural context, needs and necessities (Baayen & Van Doorn, 2020). Overall, discussions about the CAP and the suitability of its goals and instruments "*date back almost as far as the policy itself.*" (Alons & Swaan, 2016, p.349).

Recently, the multiple-year long CAP post-2020 reform process finished after the European Parliament, the Council of the EU and the European Commission reached an agreement on the new CAP on the 2nd of December 2021 (European Commission, 2021A). While it remains to be seen how these changes to the CAP will impact the resilience of EU farming systems, I already reflect on some of the potential resilience-effects of the new CAP design throughout the chapters of this dissertation.

At the same time, the CAP is only one of several policies that affect farming systems in the EU. For instance, various policies that focus on rural development are made and implemented at the national level or other decentralised levels of

government, e.g., policies for land use and spatial planning, land tenure legislation, taxes, social security, (weather) insurances, regulations for labour conditions, and agricultural education (Vink & Boezeman, 2018). Furthermore, environmental policies and regulations, such as the legislation on the use of manure and fertilizers (e.g., via the EU Nitrates Directive), the legislation on water quality (e.g., via the EU Water Framework Directive), and the regulation of plant protection products, introduce environmental standards to which farming activities need to comply. Legislation on food safety and quality, and on animal health and welfare impact the production, processing, and distribution of agricultural products. Moreover, the European Commission announced the Farm-to-Fork strategy on May 20, 2020. The strategy introduces the Commission's plan for the transition towards a sustainable EU food system through concrete targets, arguably having a 'game-changing potential' for agri-food policymaking in the EU (Schebesta & Candel, 2020). The interactions between these adjacent policies and the CAP are not always clear, adding extra complexity to how public policies influence the resilience of farming systems.

In this dissertation, I focus primarily on the influence of public policies on the resilience of farming systems, rather than all possible enabling or constraining factors in the farming systems' environment for different reasons. First, academics have widely emphasised that the multitude of challenges and increasing uncertainty asks for appropriate public policies responses (Smith & Olesen, 2010; Iglesias et al., 2012; Barnosky et al., 2016; Fresco & Poppe, 2016; Ge et al., 2016). Having inappropriate policies can have a significant negative impact on systems' resilience, because rather than being a single driver of resilience, policies are able to affect all proposed sources of resilience (Mijatović et al., 2013; Quinlan et al., 2016; Folke, 2016). Second, public policies can improve or compensate for when farming systems lack the necessary resilience capacities to overcome certain shocks or stresses, or when the systems become too vulnerable to function as desired (Feindt et al., 2020). For instance, in times of increasing

extreme weather events, public policies can help strengthen an arable farming systems' resilience e.g., by providing weather insurances and disaster payments, by offering investment support for adopting alternative climate-resilient crops, or by supporting changes of land use. Of course, besides public policies initiated by governmental actors, other modes of governance, such as markets or private initiatives within food value chains, are also capable to influence farming systems' resilience and affect farming (Vink & Boezeman, 2018). However, public policies and regulations still set predetermined boundaries in which (non-)farming system actors have the autonomy to act and that guide their behaviour. Even in governance modes in which solely private actors participate, regulations set by the government will still be of relevance (Driessen et al., 2012). Thus, public policies have a large impact on the resilience-enhancing or -constraining environment for farming systems.

### *1.1.4 Problem statement*

In the above, I have argued that European farming systems are increasingly facing challenges that make it hard for these systems to continue functioning in their desired ways. The potential impact of shocks and stresses make it increasingly difficult for these farming systems to deliver their different private and public goods. To be able to deal with these shocks and stresses whilst maintaining their essential functions of providing private and public goods, farming systems are required to be resilient. Accordingly, there is an increasing call for supporting resilience through EU agricultural policy. Both the resilience and policy sciences literature have acknowledged the link between resilience and public policies; however, there remain some important knowledge gaps that require attention.

First, when policy scientists adopt the resilience concept, it is primarily with an interest in how to design policies, or public administrations in general, that are resilient *themselves* rather than for enhancing systems' resilience (e.g., Swanson et al., 2009; Duit, 2016; Howlett, 2019). For instance, several policy studies have

highlighted the requirement to build resilience into policies with the aim to make them adaptable and capable of dealing with uncertainty, shocks, and surprises over a longer term (Kwakkel et al., 2010; Walker et al., 2010; Walker et al., 2013; Capano & Woo, 2017). Resilience for policies means that they can uphold the same performance when confronted with internal or external disturbances (Capano & Woo, 2017). Consequently, public policy research to date has barely analysed the (potential) effects of policies on the resilience of complex systems: the concept is argued to be difficult to operationalise, to objectively measure, and hardly leaves room to include human agency (Capano & Woo, 2017; Moser et al., 2019; Feindt et al., 2020). Nevertheless, considering the increasing influence of the resilience concept as guiding EU policymaking, it is needed to gain further insight in the link between resilience and policies from a policy science perspective.

Second, existing resilience literature has focused more on understanding how public policies can strengthen the resilience of complex systems by studying, for example, bio-based production systems (Ge et al., 2016), energy systems (Gatto & Drago, 2020) and urban infrastructures (Béné et al., 2016). Various academics have also made efforts to identify specific policy characteristics that may improve the resilience of complex systems, such as enabling polycentricity, accommodating self-organisation and knowledge networks or by encouraging learning and experimentation (Van den Brink et al., 2014; Béné et al., 2016; Karpouzoglou et al., 2016). Despite the valuable understandings provided by the resilience literature on the potential of public policies to affect systems' resilience, approaches to systematically assess whether and how policies address resilience concerns and needs are hardly available. A possible explanation might be that resilience literature has a habit of treating policy and governance as 'black box' concepts, meaning that the causal pathways through which policies enable or constrain a system's resilience remain largely unidentified (Duit, 2016; Biesbroek et al., 2017). Public policies are often merely named as one of the different factors in the broader social context that can impact the resilience of a system, without

specifying what this might imply for the design of these policies. This knowledge gap invites for identifying a way to systematically analyse how policies are expected to enable or constrain the resilience capacities of farming systems.

Moreover, while EU agricultural policies are designed at supranational or national level, the resilience impacts of these policies are felt locally. However, few studies are available on how public policies influence the resilience 'in practice' at the farming-system level. Whereas a policy might be designed with the intention to support the resilience of farming systems, its actual effects might be experienced differently on the ground, depending on the farming systems' characteristics, local context, the expectations of the targeted actors, and different policy interactions (Nicholas-Davies et al., 2021). A relevant body of perceived resilience literature exists which e.g., have studied farmers' risk behaviour and decision-making processes to understand how these factors influence their resilience (see Slijper, 2021). Yet, studies that exclusively focus on how farming systems' actors experience the influence of policies on their resilience are limited. Resilience and policy studies that aim to understand the interactions between public policies and resilience outcomes should consider the complementary insights that a bottom-up policy analysis can offer.

Last, academics have indicated the need for a long-term and inviting perspective for agriculture and food systems in view of current challenges and turbulent times (see e.g., Vink & Boezeman, 2018; De Zwarte & Candel, 2020; FAO, 2021; Rotmans & Verheijden, 2021). Research on the influence of the CAP and adjacent policies on the resilience of farming systems contributes to this call and is crucial for supporting policymakers in the EU. Not only does resilience research focus on detecting and eliminating systems' vulnerabilities, but it also involves questioning current patterns and views, thinking about what enables systems to adapt or change, and identifying ways for how public and private actors together can offer direction to adaptations and transformative change. Reflecting on how farming

systems respond to disruptions, or how they adapt or transform over time can help with designing policies that contribute to a long-term perspective for EU agriculture, which is not only of interest for farming systems' actors but also for society at large.

## 1.2 Research questions

Based on the above identified knowledge gaps, this dissertation aims to analyse and explain how the design and interaction between EU agricultural policy, especially the CAP, enhances or constrains the resilience of farming systems. To meet this overall aim, this dissertation answers the following central research question: ***How does EU agricultural policy shape the resilience of European farming systems?*** Four sub-questions were formulated that together guided the research and helped answering the central research question.

First, to study EU policymaking for resilient farming systems, it is needed to have an academically grounded understanding of *how* policies can influence resilience. However, a conceptualisation of how policies enable or constrain resilience remains unspecified. I therefore start by developing a heuristic tool that allows for analysing and assessing how agricultural policies influence the resilience capacities of farming systems, named the ***Res****ilience* ***A****ssessment* ***T****ool* (ResAT). The tool offers a conceptualisation of the relationship between the output of public policies, consisting of goals and instruments, and farming systems' resilience. The tool provides a structured approach to examine which types of policy goals and instruments have an enabling- or constraining-effect on the robustness, adaptability, and transformability of farming systems. Such an examination helps to provide leverage for improvements of these policies. To illustrate the use and value of the heuristic tool, I apply it to a farming system case in the Netherlands that is confronted by different resilience-challenges. The first sub-question is, therefore, as follows:

**Sub-question 1**. *How do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system?*

Second, to further understand the relationship between policies and resilience, I argue that it is necessary to study to what degree intended outcomes of a policy for improving resilience correspond with experienced outcomes (and preferences) of involved farming system actors. I therefore adopt a bottom-up approach to policy analysis to study how actors at the farming- system level across five case studies experience whether and how policies enable or constrain resilience. The farming system cases are located in Flanders (Belgium), the Netherlands, Poland, Spain, and the UK. This research complements the approach of sub-question 1 by moving the analytical focus away from policy outputs and goal attainment to the specific context of the farming systems in which the policies are implemented. The bottom-up approach therefore provides insights into how the CAP's and adjacent policies' effects on resilience might be experienced differently on the ground, depending on the farming systems' characteristics, local context, and the expectations of the targeted actors. These insights are valuable for policymakers for drawing lessons and adjusting the design and delivery of resilience-oriented policies. The second sub-question is:

**Sub-question 2**. *How do actors at the farming-system level experience the influence of policies on the resilience of farming system cases in Flanders, the Netherlands, Poland, Spain, and the UK?*

Third, whereas resilience as a concept is increasingly being adopted as a principle for agri-food policymaking, the contextual and subjective elements of resilience have led to multiple interpretations of how policies can or should support resilience. Therefore, as a next step, I explore and reconstruct how the concept of resilience is used in EU agricultural policymaking by specifically focusing on the framing of resilience in the CAP post-2020 reform process. In this step, I shift the

focus from the regional farming-system level towards the European policymaking level to improve our understanding of how resilience thinking affects policy design at a higher vertical level of governance. By applying a framing perspective, I identify the causal narratives and discursive elements that policy actors and stakeholders at the EU level (strategically) link to resilience and how this translates to preferred policy interventions. Addressing this subject provides a better understanding of the shared or conflicting meanings attached to the concept of resilience. The third sub-question is as follow:

> **Sub-question 3.** *How is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames?*

The final research step is to identify opportunities and provide suggestions for how the CAP could effectively strengthen the resilience of farming systems. The results of the previous sub-questions will contribute to understanding the strengths and weaknesses of the existing policy framework, in particular the CAP, regarding its support for the resilience of different farming systems. Using these results as a starting-point, I collaboratively organised workshops with agricultural policymakers and stakeholders in six different European countries (Flanders (Belgium), the Netherlands, Italy, Poland, Spain, and the UK) focused on co-designing policy recommendations for improving the resilience-enabling capacity of the CAP. I analysed the co-design workshops across contexts, leading to the presentation of key lessons and concrete policy recommendations for achieving a better balance between policies that support robustness, adaptability, and transformability of Europe's farming systems. The fourth sub-question is:

> **Sub-question 4.** *What policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers?*

The four studies will bring together the scholarship on resilience and policy sciences, leading to key insights into how to develop policies that enable the ability of farming systems to overcome current and future challenges. This dissertation's specific contribution consists of: (1) introducing a novel heuristic for analysing and assessing policies in terms of their ability to support resilience; (2) conducting a top-down policy analysis and a bottom-up analysis of experienced policy effects to understand how policies shape resilience 'on paper' and 'on the ground'; (3) offering an empirical comparison of policies' resilience-effects across multiple farming system case studies; (4) reflecting on how various actors seem to understand and appropriate resilience whilst recognising the related policy implications; and (5) identifying concrete policy recommendations for strengthening EU farming systems' resilience. By addressing the four sub-questions, this dissertation aims to contribute to the conceptual and empirical discussion on the relationship between EU agricultural policies and the resilience of farming systems.

## 1.3 Theoretical approach

In order to study the various dimensions that characterise the resilience of farming systems, I used of a multi-theoretical approach that allowed me to combine insights from policy sciences (e.g., public policy design, experienced policy effects, policy framing) with recent scholarship on resilience. In **Section 1.1.2**, I have already elaborated upon this dissertation's main theoretical concept of resilience. This section focuses on theoretical perspectives for policy analysis. Each of the perspectives is also discussed in detail in the individual research chapters.

### *1.3.1 A top-down policy perspective: policy design and EU policymaking*

First, I adopt *policy design* perspective as base for developing a conceptualisation of how policies can enable or constrain resilience. Policy design studies are interested in analysing the substance or output of policies, which take the form of

policy programmes, laws, or regulations, that follow directly from the governmental actors' decision-making processes (Schneider & Sidney, 2009; Knill & Tosun, 2012; Howlett, 2019). Policy design theory offers an analytical lens to systematically distinguish between the different elements that compose the output of policies: *policy goals* (the stated aims and expectations that a policy seeks to achieve) and *policy instruments* (the means or techniques used to achieve these goals). The design of a policy reflects the efforts of governmental actors to resolve a policy issue, linking distinct goals to instruments which actors are expected to implement (Howlett et al., 2015; Howlett, 2019). In practice, the resilience of EU farming systems is affected by many policies and the CAP pursues numerous goals, uses multiple instruments, and operates at the European, national, and regional level. Such a collection of diverse policies, goals, and instruments creates a complex policy mix, in which the different elements interact and determine the overall impact (Howlett & Rayner, 2007; Magro & Wilson, 2013; Nair & Howlett, 2016; Howlett, 2019). Policy design theory distinguishes between *coherence*, *consistency,* and *congruence* to explain how policy elements interact (Howlett & Rayner, 2018; Rogge & Reichardt, 2016). The risk related to overly complex policy mixes is that they likely contain conflicting instruments with ambiguous means–ends relations that lead to trade-offs and reduced impact (Howlett & Rayner, 2007; Howlett, 2018); also, regarding enhancing a system's resilience (Martin et al., 2016; Ashkenazy et al., 2018). Adopting a policy design perspective helps to explore the efforts made by policymakers for shaping resilience, and account for how policy goals and instruments in EU agricultural policy can create synergies and conflicts.

### 1.3.2 A bottom-up policy perspective: experienced policy effects 'on the ground'

Second, I adopt a *bottom-up perspective* for understanding the experienced resilience-effects of policies. A bottom-up perspective to policy analysis switches

the analytical focus from policy outputs and goal attainments to the specific context in which a policy is implemented (Berman, 1978; Matland, 1995). Accordingly, bottom-up perspectives share a specific interest in local actors' experiences with policy delivery and its impacts to analyse if public policies work out in practice as intended on paper (Sabatier, 1986; Nilsen et al., 2013). Local actors deal with the implemented policies in practice almost daily, and can offer a detailed view on the implementation of the policies and their implications at the local level (see e.g., Huttunen et al., 2014; Huttunen, 2015). Actors closest to the targeted system can thus provide valuable insights into the effects of policies on the functioning of a system through their practical experiences. Moreover, successful policy implementation also depends on whether the policy is considered acceptable by the affected actors (see e.g., Hemerijck, 2003; Hattke et al., 2019). For instance, scholars have shown that the adoption and functioning of agri-environmental policy measures depended on whether farmers experienced them as coherent with their farming practices and daily lives and deemed the level of rules involved as tolerable (Huttunen, 2015; Bouma et al., 2020). Adopting a bottom-up perspective makes it possible to study how EU agricultural policies are experienced differently per farming system case.

### *1.3.3 Policy framing: reconstructing the competing views on resilience and preferred policies*

Last, I adopt the theory of *policy framing* to study how different meanings attached to the resilience concept led to different preferred policy interventions for enhancing resilience. In public policy studies, framing is understood as the process by which actors perceive, give meaning to, and communicate about complex and ambiguous societal problems and how this translates into preferred courses of policy actions (Schön & Rein, 1995; Van Hulst & Yanow, 2016). How actors frame a societal problem can differ widely, reflecting various causal narratives about e.g., what is the problem, what is its causation, what is the moral

evaluation, how should it be treated and resolved, and by whom (Entman, 1993; Lewicki et al., 2003). Several scholars have discussed how frames are used strategically or politically by actors to influence policymaking processes. Actors can portray a problem or select and emphasise specific aspects of the problem in line with their own or their group's interests, aiming to persuade others and to incorporate their preferred interventions in policies (Entman, 1993; Benford & Snow, 2000; Candel et al., 2014; Metze, 2014; Van Hulst & Yanow 2016; Wolf & Van Dooren, 2017).

An interesting type of frame is the *consensus frame* (Gamson, 1995). This specific frame is based on an apparent agreement linked to a widely accepted concept that is ambiguous enough to attract multiple interests and values (e.g., 'resilience' - see **Section 1.1.2**). Accordingly, actors use a shared concept or idea to frame a policy problem whilst having contradictory understandings of the problem or different policy positions. Consensus frames can have implications for policymaking processes. Whereas superficial consensus over a central concept can lead to broad support, it can also hide the incompatibilities between frames and preferred solutions, potentially feeding into polarisation or stalemate in policy debates (Gamson, 1995; Mooney & Hunt, 2009; Hannah & Baekkeskov, 2020). A framing perspective is suitable for reconstructing how actors and actor groups communicate about resilience and for identifying potential implications for resilience-enhancing policy design.

## 1.4 Methodology

### *1.4.1 Qualitative research design and comparative case study approach*

The research in this dissertation follows a qualitative research design. Qualitative research is concerned with clarifying and gaining detailed insights into a specific phenomenon by particularly focusing on the distinct meanings, contexts, experiences, processes, and nuances involved (Kalu & Bwalya, 2017; Aurini et al.,

2022). Adopting a qualitative research design is valuable for exploring limitedly researched complex areas or phenomena, as it allows for an iterative process in which new significant empirical knowledge is gained by 'diving deep' in the research subject (Aurini et al., 2022). Considering the gap in empirical knowledge about the relationship between policies and resilience, qualitative research enables in-depth exploration to the heart of the *why* and *how* policies influence the different capacities of farming systems' resilience (Boeije, 2009; Kumar, 2019). Qualitative research lends itself well for both the top-down and bottom-up perspectives adopted in this dissertation. This type of research is suitable for analysing policy output published in policy documents, as well as for gathering and uniting actors' perspectives and experiences concerning the resilience-effects of policies (Yanow, 2007; Yanow, 2000; Bhattacherjee, 2012; Kalu & Bwalya, 2017; Kumar, 2019). The qualitative top-down and bottom-up analyses help to provide more insight into the relationship between resilience and policies from two different but complementary angles. Consistently using the earlier presented resilience and policy science theory makes it possible to compare own qualitive research findings across chapters as well as with previous research results.

One key aspect of this dissertation is the use of a case study approach, in which multiple farming system cases are studied in-depth and compared on similarities, differences and patterns across cases to infer links between policies and farming system's resilience (Flyvbjerg, 2006; Baxter, 2010; Kumar, 2019). The studied farming system cases were part of the SURE-Farm Project, which intensively analysed eleven diverse farming system cases to provide an in-depth insight into the resilience challenges, capacities, and strategies of farming systems in the EU. The SURE-Farm project allowed me to collaborate closely with fellow consortium partners, who are experts on their country-specific farming system and have the essential language skills for gathering data. The farming system cases that were studied are located in different geographic regions in the European Union

(Central-Eastern Europe, Mediterranean Europe, and Northwest Europe), reflecting variety in farming types and the produced private and public goods, agro-ecological zone, political-institutional settings and economic, social, and environmental resilience-challenges. For instance, the studied intensive arable farming system in *De Veenkoloniën* differed considerably from the extensive sheep farming system in *Aragón* regarding e.g., the influence of CAP area-based direct payments on their resilience capacities due to differences in local contexts. Additionally, the national policy choices of each Member State partially determine how the CAP and adjacent policies strengthens or constrains farming systems' resilience. Comparing farming system cases offers opportunities to systematically identify patterns between policies and resilience across cases despite contingencies or context (Baxter, 2010; Goodrick, 2014). Moreover, comparing cases is valuable for learning how to better design policy interventions to fit specific farming systems' context and thus realising intended resilience outcomes.

This dissertation explores for theoretical explanations on how public policies enhance or constrain farming systems' resilience, or which policy design is sufficient for enabling robustness, adaptability, or transformability. The found explanations are perhaps rooted in the specificalities of the case studies, but still abstract enough to provide insights to similar circumstances (Flyvbjerg, 2006; Baxter, 2010; Maxwell & Chmiel, 2013). For instance, one might wonder if the influence of contemporary agricultural policy on farming systems' resilience found in this dissertation might as well hold true for other non-researched systems or policy domains.

### *1.4.2 Methods of data collection and analysis*

The decision to adopt a multi-theoretical approach and the desire to gain a complete picture of the research problem has led to the use of different but complementary methods for data collection and analysis. Additionally, certain research methods are more appropriate for addressing separate sub-questions. In

general, the deployed methods are qualitative of nature, enabling an in-depth empirical understanding of the relationship between policies and resilience. **Table 1.1.** provides an overview of the adopted research methods for data collection and analysis per chapter. Each method is discussed and reflected upon more thoroughly in its respective chapter.

| Chapter | Research question | Data | Methods |
|---|---|---|---|
| **2** | How do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system? | Academic literature<br><br>Policy documents (The Netherlands)<br><br>Focus groups (national and EU level) | Literature review<br><br>Qualitative content analysis of policy documents (deductive coding)<br><br>Illustrative case study:<br>▪ *Intensive arable farming in De Veenkoloniën region (NL)* |
| **3** | How do actors at the farming-system level experience the influence of policies on the resilience of farming systems in Flanders, the Netherlands, Poland, Spain, and the UK? | Semi-structured, in-depth interviews (n=98)<br><br>Regional focus groups | Qualitative content analysis of interviews (deductive and inductive coding)<br><br>Comparative case study analysis:<br>▪ *Dairy farming in Flanders (BE)*<br>▪ *Intensive arable farming in De Veenkoloniën region (NL)*<br>▪ *Private family fruit and vegetable farming in Central-Eastern Poland (PL)*<br>▪ *Extensive sheep farming in North-Eastern Spain (ES)*<br>▪ *Large-scale arable farming in the East of England (UK)* |

| | | | |
|---|---|---|---|
| **4** | How is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames? | Policy documents of EU institutions and stakeholders related to the CAP post-2020 reform debate and the Farm-to-Fork Strategy (n=123) | Frame package analysis (deductive and inductive coding) |
| **5** | What policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers? | Co-design workshops (regional and EU level) | Comparative case study analysis:<br>▪ *Dairy farming in Flanders (BE)*<br>▪ *Small-scale farming of perennial crops (hazelnuts) in Central Italy (IT)*<br>▪ *Intensive arable farming in De Veenkoloniën region (NL)*<br>▪ *Private family fruit and vegetable farming in Central-Eastern Poland (PL)*<br>▪ *Extensive sheep farming in North-Eastern Spain (ES)*<br>▪ *Large-scale arable farming in the East of England (UK)* |

**Table 1.1:** *Overview of research data and methods per chapter applied in this dissertation*

## 1.5 Outline of the dissertation

The remaining chapters of this dissertation consist of four studies, each addressing one of the research sub-questions, and the overall conclusion. The chapters have been published in peer-reviewed academic journals (Chapter 2 and 5), as part of a peer-reviewed edited academic book (Chapter 3) or have been accepted for publication in a peer-reviewed journal (Chapter 4). **Chapter 2** introduces the ResAT as a heuristic that offers an approach for assessing how policy goals and instruments of the EU agricultural policy enable or constrain

farming systems' resilience. This chapter ends by presenting the results of applying the ResAT to a Dutch intensive arable farming system case. **Chapter 3** addresses how actors experience whether and how the CAP and relevant adjacent policies influence the resilience of five European farming system cases. This chapter presents the results of a bottom-up policy analysis based on in-depth interviews with a farmers, regional policymakers, and various stakeholders. **Chapter 4** reconstructs the framing of resilience by policymakers and stakeholders during the CAP post-2020 reform process. The frame analysis shows that resilience is framed in five ways by various actors to propose different policy interventions for enhancing resilience. **Chapter 5** presents the results of six national policy co-design workshops with agricultural policymakers and stakeholders and an EU-level workshop with Brussels-based experts. The workshops resulted in three key lessons about the CAP's influence on resilience and a specific set of policy recommendations. **Chapter 6** concludes the dissertation by synthesising its key results and answers the main research question. The strengths and limitations of the dissertation are discussed and recommendations for future research are provided. The chapter ends by reflecting on the newly (re)designed CAP post-2020 and the Green Deal and discusses the need to politicise the resilience debate for agricultural policymaking.

# Chapter 2

# Does the Common Agricultural Policy enhance farming systems' resilience? Applying the Resilience Assessment Tool (ResAT) to a farming system case study in the Netherlands

This chapter has been published as:

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## Abstract

The European Commission has emphasised that a more resilient farming sector is required to better respond to current and future economic, societal, and environmental challenges. Consequently, supporting resilience has become an important aim of the proposals of the Common Agricultural Policy (CAP) post-2020. However, interactions between public policies and resilience outcomes have hardly been researched in-depth. This study analyses whether and how the CAP and its national implementations enable or constrain the resilience of farming systems. For this purpose, I introduce the Resilience Assessment Tool (ResAT): a heuristic that conceptualises how policy outputs enable or constrain farming systems' resilience. The tool consists of three dimensions (robustness, adaptability, and transformability) with four indicators each. The ResAT is applied to a Dutch case study: the intensive arable farming system in *De Veenkoloniën*. I conclude that the CAP and its national implementation strongly support the robustness of this farming system, but that the policy enables adaptability much less and rather constrains transformability. The chapter ends with a reflection on how the application of the ResAT allows for new insights into how EU agricultural policies influence the resilience of farming systems.

# 2. Does the Common Agricultural Policy enhance farming systems' resilience? Applying the Resilience Assessment Tool (ResAT) to a farming system case study in the Netherlands

## 2.1 Introduction

The European Commission (EC), when presenting its legislative proposals for the Common Agricultural Policy (CAP) post-2020, emphasised the aim to better support the resilience of agricultural systems in the European Union (EU) (European Commission, 2018A). Phil Hogan, then Commissioner for Agriculture and Rural Development (2014–2019), declared that the CAP would deliver on "genuine subsidiarity for Member States; ensuring a more resilient agricultural sector in Europe; and increasing the environmental and climate ambition of the policy" (European Commission, 2018B). This strong emphasis on resilience is based on the concern that the agricultural sector should be supported in responding to current and future economic, societal, and environmental challenges and uncertainties. Building on Meuwissen et al., (2019), the resilience of a farming system is defined as its ability to manage change by responding and adjusting itself, while maintaining essential functions.

Despite the resonance of the concept of resilience in agricultural policymaking circles, less is known about its concrete implications for the designing of public policy. Previous research focused mainly on how to enable resilience at farm level: in individual farms or in farm management (e.g., Darnhofer, 2014; Darnhofer et al., 2016), or on individual farmers' strategies to anticipate or respond to shocks or uncertainties (e.g., Darnhofer, 2010; García-Arias et al., 2015). These studies acknowledge the role of public policies by describing how they, as part of a broader social context, affect e.g., production processes, decisions about diversification, and farmers' possibilities to adapt (new) strategies, and, therefore, a farm's resilience.

However, a conceptualisation of how policies enable or constrain resilience remains unspecified. The extent to which the CAP and its national implementations support resilience, or even constrain it, is currently unclear. For instance, the CAP relies heavily on various instruments to increase farmers' income in the short term, but less is known about how these instruments affect resilience in the long term. In order to actually contribute to a resilient agricultural sector, a more comprehensive understanding is required about how the CAP affects the resilience of farming systems.

The question of how to develop policies that enable a system's ability to overcome current and future challenges is not specific to agriculture. It is also identified as a major knowledge gap by other policy researchers (Swanson & Bhadwal, 2009; Howlett, 2019). As argued by Biesbroek et al., (2017), much of the resilience literature tends to treat policy and governance as black box concepts; the actual causal relations through which policies enable or constrain a system's resilience remain largely uncharted territory. This knowledge gap resulted in various efforts to identify resilience-enhancing characteristics of policies (Hillmer-Pegram & Robards, 2015; Valman et al., 2015; Ojea et al., 2017). The literature, however, focuses mainly on how the policies themselves can become more resilient; an agreed-upon approach to systematically analyse how policies affect a system's resilience is still lacking. Furthermore, these characteristics are not fine-tuned to farming systems.

To address this research gap, this study analyses whether and how the CAP enables or constrains farming systems' resilience. This chapter addresses the research gap by proposing a new heuristic: The **Res**ilience **A**ssessment **T**ool (ResAT). This heuristic consists of a set of indicators to assess the capability of a policy to support the resilience of a farming system. The tool was inspired by Gupta et al., 's (2010) Adaptive Capacity Wheel, which allows users to assess the capability of governance institutions and policies to enable society to adapt to

climate change (**Section 2.2**). Subsequently, I apply the ResAT to examine the perceived effects of the CAP and its national implementation on the resilience of an intensive arable farming system in *De Veenkoloniën*, the Netherlands (**Section 2.4**). Two focus groups with policymakers and stakeholders were organised to discuss and validate the findings of the ResAT analysis. Finally, I discuss several key reflections that emerge from the analysis (**Section 2.5**).

## 2.2 Conceptualising the relationship between public policy and farming systems' resilience

### *2.2.1 Resilience and farming systems*

To analyse how policies affect the resilience of the agricultural sector, I chose a farming system as the level of analysis. A farming system is the system hierarchy level above the individual farm: it is a local network of comparable types of farms and other actors that interact formally and informally and are responsible for private and public goods in a specific regional context (Giller, 2013; Meuwissen et al., 2019). Furthermore, farming systems are open systems, and their activities are linked to social networks, economic processes, and the agro-ecological context in which the systems operate. Farming systems serve different essential functions for society through the provision of private goods (e.g., producing food or other bio-based resources, including fuels and fibres; providing employment and income) and public goods (e.g., maintaining natural resources and rural landscapes; protecting biodiversity; ensuring animal health and welfare). However, they may be subject to economic, social, institutional, and environmental challenges that confront the ability of these systems to maintain their functions. These challenges vary from sudden events or shocks to long-term stressors, which both can increase systemic vulnerabilities as well as provide opportunities (Rosin et al., 2013; Maggio et al., 2015; Gertel & Sippel, 2016)

As a next step, I conceptualise resilience in relation to these farming systems. The concept of resilience has become widespread in academic discussions and policy contexts across a diverse set of fields, such as ecology, disaster management, psychology, natural resource management, and agriculture and rural development (Baggio et al., 2015; Davidson et al., 2016; Sinclair et al., 2014; Ashkenazy et al., 2018). Resilience is understood in different ways within these fields. For instance, the understanding that resilience entails the capacity of a system to resist shocks or disturbances with the goal of rapidly returning to a perceived normal is particularly common in disaster management studies (Barr & Devine-Wright, 2012; Scott, 2013). In this respect, key aspects of resilience are a system's resistance to perturbations and its ability to recover without experiencing change to existing functions afterwards (Holling, 1973; Davoudi, 2012; Urruty et al., 2016). While this understanding links resilience to the ability to resist shocks and changes in the short-term, other studies, e.g., in the field of rural and agricultural studies, have suggested that resilience also consists of the capacity to adapt, or even transform, in response to external shocks or stresses (Walker et al., 2004; Davidson, 2010; Folke et al., 2010). For example, Darnhofer (2014) highlights that managing a farm's resilience also includes being capable of dealing with uncertainties through learning and adjusting responses to changing circumstances, and to fundamentally change components of farming systems when these prove dysfunctional. By including change as integral parts of resilience, resilience thinking offers a conceptual lens that accepts that change is omnipresent and often unpredictable in complex systems (Sinclair et al., 2014; Duijnhoven & Neef, 2016; Folke, 2016).

Based on this broad understanding of resilience, I build on concepts rooted in social-ecological systems analysis (Folke, 2006) to conceptualise farming system resilience as the system's capacity to manage and respond to challenges, both foreseeable trends and unexpected events, while maintaining its essential functions of providing private and public goods. I also distinguish between three

resilience dimensions (e.g., Folke et al., 2010; Anderies et al., 2013; Knickel et al., 2018; Meuwissen et al., 2019), expressed in three different capacities: (1) Robustness is the capacity of the system to resist external perturbations and to maintain previous levels of functionality, without major changes to internal elements and processes (Urruty et al., 2016). (2) Adaptability is the capacity of the system to adjust internal elements and processes in response to changing external circumstances. The system can continue to develop along the original trajectory, while maintaining important functionalities (Folke et al., 2010). (3) Transformability is the capacity of the system to change fundamentally, particularly when structural changes in the ecological, economic, or social environment make the existing system untenable to provide important functionalities (Walker et al., 2004). Conceptualising resilience through robustness, adaptability, and transformability extends the understanding of resilience beyond only maintaining equilibrium; adjustments and change are also integral to a system's resilience.

### *2.2.2 Public policies and resilience*

Public policies are sets of interrelated decisions that governmental actors take regarding an issue. I follow Howlett 's (2019) conceptualisation of public policy outputs as consisting of goals and instruments. Policy output refers to the direct results of governmental actors' decision-making processes, which take the form of policy programmes, laws, or regulations. Policy output consists of goals and instruments that are interrelated and operate at different levels of abstraction. Policy goals are the (stated) aims and expectations that a policy pursues, and policy instruments are the means or techniques used to achieve these goals (e.g., rules, prohibitions, subsidies, fines, networks, platforms, training, or partnerships). These policy components interact with one another, leading to synergies, conflicts, or trade-offs that result in complex policy configurations with often unclear means-ends relations. This also means that certain policy

components can enable the resilience of the system in one area, while constraining it in another area (Martin et al., 2016; Ashkenazy et al., 2018). The challenge for policymakers is then to discover how policy components can generate synergies and avoid trade-offs to support a system's resilience.

The resilience literature has identified various ways in which policies may enable resilience, particularly in the areas of risk and crisis management, resource management, and city planning. Béné et al., (2016), for example, showed with their systematic literature review on urban resilience that multilevel or polycentric governance is vital for enhancing resilience. Huitema et al., (2009) and Pahl-Wostl (2009) also underline the desirability of polycentric governance and how it enhances knowledge exchange and potentially synergy-enabling adaptations. Other scholars have pointed to the importance of accommodating self-organisation and knowledge networks (Van den Brink et al., 2014) or the encouragement of learning and experimentation (Baud & Hordijk, 2009; Karpouzoglou et al., 2016).

The topic of resilience has also received attention in the policy literature through questions about how to design policies that are capable of dealing with uncertainties and can support systems to overcome current and future challenges. For instance, Howlett (2019) highlighted that agility, improvisation, and flexibility are important policy features to adapt and to deal with surprising or uncertain futures. Likewise, Swanson et al., (2009) identified specific characteristics for policies to function under complex, dynamic, and uncertain conditions, such as variation through multiple policies to address the same issue to increase the likelihood of achieving desired outcomes in uncertain times, regular policy review processes to evaluate effectiveness and continuous learning, and pilots to test assumptions relating to emerging issues. Moreover, Daedlow et al., (2013) discussed factors that determine the resilience of natural resource governance systems. For instance, they revealed in their case study that external processes of

change and disturbances with high uncertainty may prevent decision makers from adapting or transforming the governance system. They showed that the position, influence, and motivation of key decision makers can very much determine the outcome of a reorganisation process of a governance system.

Despite these valuable insights, to date, the policy literature concentrates primarily on how to increase the resilience of policies rather than on how policies can improve systems' resilience. Consequently, a systematic approach to analyse how public policies enable or constrain the three dimensions of resilience of complex systems remains largely uncharted territory. Moreover, there is no specific conceptualisation of how policies enable or constrain the resilience of farming systems.

### *2.2.3 The Resilience Assessment Tool (ResAT)*

Against this background, I developed a heuristic tool that conceptualises the relation between policies and the resilience of farming systems, enables examination of whether and how policies enhance or constrain resilience, and provides leverage for improvements of these policies. As stated in **Section 2.1**, the ResAT is inspired by Gupta et al., 's (2010) Adaptive Capacity Wheel, complemented by new insights from the resilience and policy literatures and takes into account specific challenges to European farming systems. It can be used to analyse both policy goals and policy instruments. Through an extensive literature review, we identified indicators for robustness-, adaptability-, and transformability-enabling policies to further conceptualise each policy type. **Figure. 2.1** shows the tool and below I present the indicators per resilience dimension.

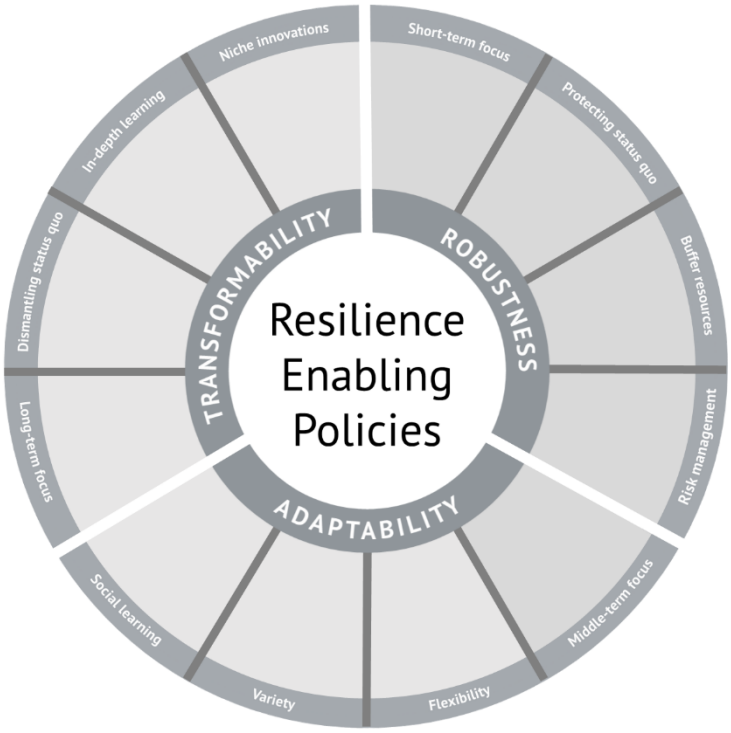



**Figure 2.1**: *The Resilience Assessment Tool – The wheel illustrates the indicators (outer ring) per resilience capacity (robustness-, adaptability-, and transformability) (inner ring).*

*Robustness-enabling policies*

Policies that enable robustness support the farming system in maintaining its current functions and the desired level of output while avoiding major changes, despite shocks and stresses (Anderies & Janssen, 2013; Chaffin et al., 2014; Urruty et al., 2016). Four indicators were identified:

(1) Robustness-enabling policies focus on the recovery and continuation of the status quo with marginal adjustments within a short term (i.e., within months to a year); sometimes shifting the burden to other timescales is tolerated or even encouraged.

(2) Robustness-enabling policies aim to protect the status quo. The policy goals and instruments prioritise quick and familiar adjustments to existing practices in order to sustain the current functioning of the farming systems in the case of an uncertain or changing environment (Park et al., 2012; Anderies et al., 2013).

(3) Robustness-enabling policies provide buffer resources to mitigate shocks and stresses that affect farming systems or to enhance the system's ability to recover from adverse effects (Folke et al., 2010). These buffer resources reduce the sensitivity of farming systems to perturbations (Anderies et al., 2013). For example, buffer resources involve public compensation funds, drought aid, or mobilisation of additional labour. A specific form of buffer is redundancy: back-up systems are made available that provide the same functionalities in the event of the primary system failing (Weick & Sutcliffe, 2001; Anderies et al., 2013).

(4) Robustness-enabling policies provide other modes of risk management that help farming systems to recover from a shock to an acceptable state to prevent further decline (Boin et al., 2013). For instance, these policies include risk monitoring, responses, and evaluation. In addition, the policies provide information and means to avoid, anticipate, or minimise risks (Hood & Jones, 1996; Polsky et al., 2007; Anderies & Janssen, 2013).

*Adaptability-enabling policies*

Policies focused on adaptability increase a farming system's capacity to identify, adapt to, and learn from frequently changing conditions. These policies allow adjustments to the system to avoid or withstand future disturbances (Boin et al., 2013; Duit, 2016; Hurlbert & Diaz, 2013; Karpouzoglou et al., 2016). Four indicators were identified:

(1) Adaptability-enabling policies focus on enabling and encouraging swift action; however, the aim of adjusting existing structures, policies, and cultures requires a middle-term focus (i.e., 1–5 years).

(2) Adaptability-enabling policies allow and encourage farming system actors to respond in flexible ways to increased uncertainty and changing circumstances, as overly strict and means-oriented regulations are avoided (Anderies & Janssen, 2013; Karpouzoglou et al., 2016). For example, binding formal agreements that prescribe specific procedures reduce flexibility.

(3) Adaptability-enabling policies allow for variety between and within farming systems. This variety can be reached through, for example, broad stakeholder involvement, incorporation of multiple sectors, and connections across jurisdictional levels (Verweij & Thompson, 2006; Pahl-Wostl, 2007; Duit, 2016). Moreover, the focus is also on overcoming a silo mentality between policy domains and levels, as this mentality obstructs integrative and tailor-made responses (Brown, 2014; Rijke et al., 2013). Tailor-made responses are desirable as certain goals or instruments are not appropriate for every context (Anderies & Janssen, 2013). Adaptability means room for context-sensitive policy design to reach the most suitable responses to a shock or stressor.

(4) Adaptability-enabling policies contain policy goals and instruments that enable social learning. These goals and instruments focus on adjusting practices to novel circumstances through social processes without shifting paradigms. The practices are adjusted to be better capable of coping with certain shocks and stressors, based on learning (e.g., improvisation, trial and error, reflection, and exploration of new ideas) (Gunderson, 1999; Olsson et al., 2006; Van Herk et al., 2011; Rijke et al., 2012). In addition,

the goals and instruments should encourage social processes in which actors develop, exchange, and preserve knowledge in networks and remove mechanisms that inhibit these processes (Dewulf et al., 2005; Pelling & High, 2005; Pahl-Wostl, 2007).

*Transformability-enabling policies*

Policies focused on enabling transformability aim to increase a farming system's ability to develop new elements and processes or to dismantle existing elements and processes that have become dysfunctional, and thereby to change their operational logic or identity (Walker et al., 2004; Geels, 2014). Four indicators were identified:

(1) It is accepted within the policy that transformation requires a long-term focus (i.e., a focus of more than 5 years). However, the policy output focuses on immediate and serious efforts to initiate small but in-depth changes (Termeer et al., 2017).

(2) Transformability-enabling policies aim to dismantle incentives that support the status quo by intentionally addressing dysfunctional path dependency, structural power, and vested interests in farming systems. Moreover, these policies halt the reproduction of problematic elements of the core regime (Geels, 2011; Turnheim & Geels, 2012). Transformability-enabling policy interventions aim to create windows of opportunity that make it possible to disrupt problematic patterns of behaviour in farming systems (Rijke et al., 2013). These interventions incentivise, for example, target groups' transformative practices.

(3) Transformability-enabling policies enable actors to challenge dominant mindsets and fundamentally adjust them to changing circumstances (i.e., high-order reflectivity) (Brunner & Schönberger, 2005; Folke et al., 2005;

Pahl-Wostl, 2007; Huntjens et al., 2012). In addition, the policies support third-order learning, so that actors can reflect on the schemata underlying the system of which they are part (Bartunek & Moch, 1987). These concepts of in-depth learning focus on paradigmatic change from within the system.

(4) Theories about transformability emphasise the significance of enhancing and accelerating niche innovations, experimentation, self-organisation, and early wins through policy interventions (Termeer et al., 2017). For example, niche innovations are encouraged when self-governance of collectives is enabled through policies (Ostrom, 2006) or when the emergence of 'shadow networks' outside direct government control is tolerated (Olsson et al., 2006). It is vital for innovations that policies connect actors and encourage them to experiment through facilitated access to resources and support (Gunderson, 1999; Olsson et al., 2006; Rijke et al., 2013).

## 2.3 Methodological approach

The ResAT is not a classic assessment tool in the sense that it measures the policy's impact on resilience; instead, it allows for a qualitative policy analysis. I systematically analyse and interpret the policy output and its relation to the indicators for robustness-, adaptability-, and transformability-enabling policies in the case study context. The analysis is based on qualitative content analysis (Mayring, 2014; Bengtsson, 2016) and expert judgement, which requires a clear methodological approach that is systematic and transparent (see Yanow, 2000; Gupta et al., 2010).

Resilience always needs to be analysed in relation to a farming system's specific context and challenges. For that reason, I illustrate the use of the ResAT by

applying the heuristic to an in-depth case study of intensive arable farming in *De Veenkoloniën* region, the Netherlands (**Figure. 2.2**). This case study is part of the Horizon2020 SURE-Farm project, which studies the resilience of eleven farming systems across Europe. For the purposes of this chapter, I selected this specific case as it faces a range of urgent economic, social, and environmental challenges that confront the system's resilience in both the short and long term (see **Section 2.4.1**). Moreover, intensive arable farming in *De Veenkoloniën* has been strongly influenced by the CAP in the recent past. Whereas the farming system benefited for a long time from price support provided by the CAP, support has declined due to the CAP's external and internal convergence mechanisms in recent years. These two reasons combined make the intensive arable farming system in *De Veenkoloniën* a suitable case for illustrating the application of the ResAT to analyse whether and how the CAP enables or constrains farming systems' resilience.

The policy analysis was conducted in two consecutive rounds. In the first round, I started by identifying and analysing the challenges that confront the farming system's resilience. This is an essential step as the resilience of a system should always be analysed in relation to its challenges (**Section 2.4.1**). Then, using the ResAT, I conducted a qualitative content analysis of relevant EU, national, and regional agricultural policy output. I analysed CAP policy documents, national CAP implementation plans, and other relevant regional agricultural policy documents to assess how their policy goals and instruments enable or constrain the resilience of *De Veenkoloniën*. I retrieved 13 relevant policy documents (see **Chapter 2 - Appendix I**) from official governmental websites using the following search terms: [Common Agricultural Policy], [CAP] (or in Dutch: [Gemeenschappelijk Landbouwbeleid], [GLB]); [Landbouwbeleid AND Veenkoloniën].


**Figure 2.2:** *Map showing the location of De Veenkoloniën region (shaded) in the Netherlands.*

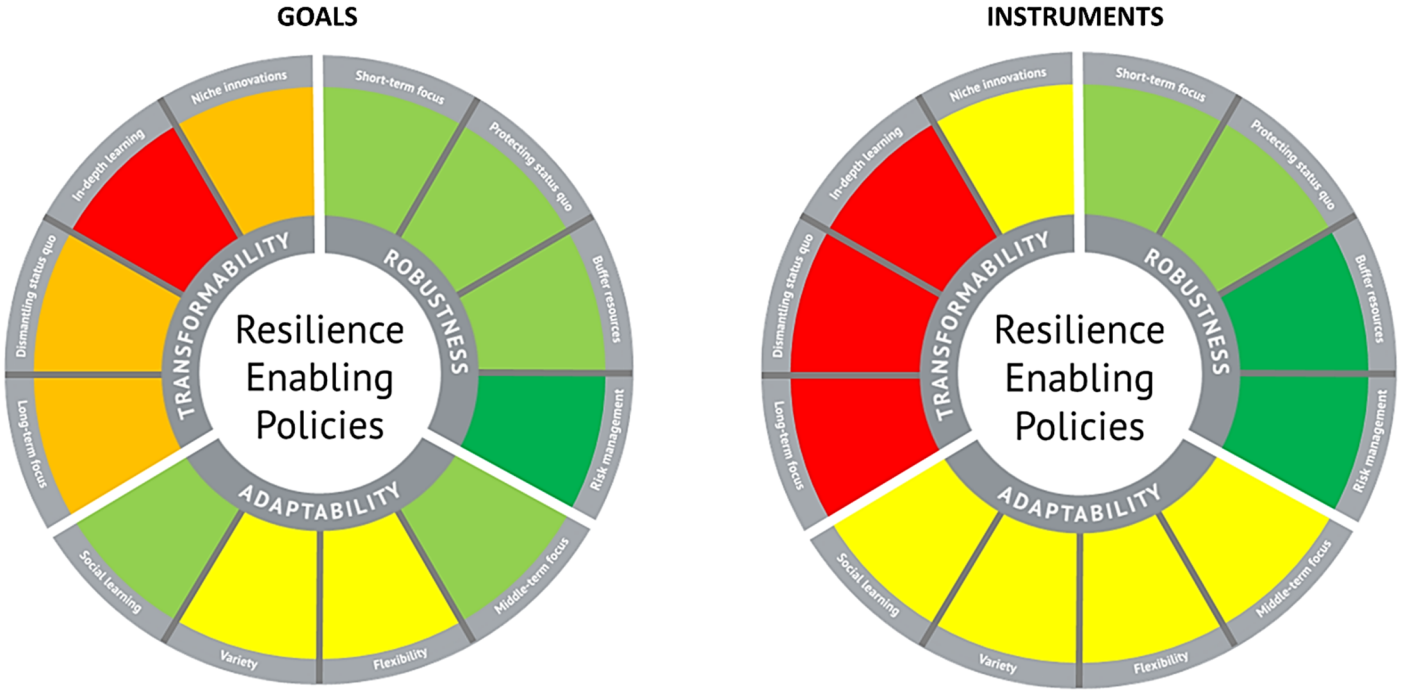
Documents were considered relevant when they: (1) reported about CAP goals and instruments adopted during the implementation period 2014–2020; (2) described national implementation decisions regarding the CAP made by the Dutch government during the implementation period 2014–2020; or (3) explained the agricultural agenda of the provinces or the case study region. The policy documents provided a comprehensive overview of the CAP-related goals and instruments at EU, national, and regional level that have affected the studied farming system.

To analyse the collected policy documents, I conducted a qualitative content analysis (see Mayring, 2014) using the ATLAS.ti program. I developed a codebook

with 24 codes, containing the 12 ResAT indicators per type of policy output (goal or instrument), and used them to indicate enabling or constraining policy goals and instruments. I then manually attributed a score to each goal and instrument on its capacity to enable or to constrain its respective policy key characteristic using a 5-point Likert scale (**Table 2.1**). Subsequently, these separate scores were brought together to formulate an overall score (0–5) per indicator. These overall scores were manually entered in two ResAT wheels (one for policy goals and one for policy instruments), which were created outside the ATLAS.ti program, by following a 5-point traffic-light rating system for visualising the results (**Figure 2.3**). The arguments for given scores are documented and were based on literature (e.g., evaluations of economic regulations), the involved researchers' expertise, and frequent discussions within the research team. The coding and scoring decision were reviewed and discussed and revisions were made on several occasions. Finally, the collected data and arguments were translated into a synthesis of the CAP's enabling and constraining effects on the farming system's robustness, adaptability, and transformability.

| **Assessment** - *To what extent does the policy goal/instrument enable or constrain the indicator?* | **Score (colour)** |
|---|---|
| Not clear | 0 (None) |
| Constraining/not enabling | 1 (Red) |
| Fairly constraining/slightly enabling | 2 (Orange) |
| Partly enabling/partly constraining | 3 (Yellow) |
| Fairly enabling/slightly constraining | 4 (Light green) |
| Enabling/not constraining | 5 (Dark green) |

**Table 2.1:** *Likert scale used to score the policy goals and instruments.*




| Colour | None | Red | Orange | Yellow | Light green | Dark green |
|---|---|---|---|---|---|---|
| Score | 0 | 1 | 2 | 3 | 4 | 5 |
| Assessment | Not clear | Constraining / not enabling | Fairly constraining / slightly enabling | Partly enabling / partly constraining | Fairly enabling / slightly constraining | Enabling / not constraining |

**Figure 2.3:** *ResAT wheels for policy goals (left) and policy instruments (right) for intensive arable farming in De Veenkoloniën*

In the second round, separate focus groups with policymakers and stakeholders were held to discuss the usefulness of the ResAT for analysing the resilience-enabling and resilience-constraining capabilities of policies and whether the results of the analysis resonated with participants' experiences. The focus groups served as a way to validate and enrich the findings of the ResAT analysis. The first focus group was organised at the Dutch Ministry of Agriculture, Nature, and Food Quality (LNV) in September 2018. Four policymakers involved with the future of the CAP in the Netherlands participated. A second focus group was organised in Brussels in September 2018, which nine stakeholders and policymakers attended. Whereas the first group focused mainly on validating preliminary findings of the analysis, the second group engaged in a broader discussion about the relationship between public policies and farming systems' resilience, and the usefulness of the ResAT. The participants' opinions and arguments were noted in the minutes of the meetings and integrated them in the findings and discussion sections.

## 2.4. Findings

### *2.4.1 Main challenges to the farming system in De Veenkoloniën*

*De Veenkoloniën* is a region in two north-eastern provinces of the Netherlands – Drenthe and Groningen – that developed into a large-scale agricultural and agri-industrial production area during the twentieth century (Immenga et al., 2012; Smit & Jager, 2018). The region's peat soils contained high amounts of organic matter, making them highly suitable for arable farming (Smit & Jager, 2018). Consequently, intensive arable farming – the farming system central to the analysis – has become the largest agricultural sector in the region, producing and processing a relatively limited set of crops, particularly starch potatoes, sugar beet, and cereal grains. The region's landscape is defined by large-scale agricultural monocultures, with few natural and landscape elements. Only 19% of the farming businesses in the region engage in one or more types of agri-environmental management supported via the CAP (Smit & Jager, 2018).

Compared to systems in other farming regions in the Netherlands, this system entails a relatively small number of large-scale intensive arable farming businesses (Immenga et al., 2012; Kuhlman et al., 2014; Smit & Jager, 2018). Many of these farms produce for, and are members of, co-operative processors situated in the region, most notably AVEBE (handling starch potatoes) and Cosun Beet Company – Royal Cosun (formerly known as Suiker Unie) (handling sugar beet) (Immenga et al., 2012; Karel, 2012; Smit & Jager, 2018). Consequently, most farmers sell their crops to these co-operatives at prices that are determined in advance. The co-operatives have traditionally played an important role in the sector's development by stimulating specialisation and innovation, by providing their members with opportunities for risk sharing, and by reducing processing costs.

Arable farmers in *De Veenkoloniën* historically received high CAP direct payments thanks to the historic entitlement system that was adopted after the MacSharry reform in 1992. After the Fischler Reform (2003), these payments were decoupled from the quantity produced and have changed into Single Farm Payments based on entitlements linked to eligible hectares of land. Because of the external and internal convergence of payments per hectare after the most recent CAP reform (2013), the direct payments per hectare decreased significantly for the starch potato farmers in *De Veenkoloniën* (Kuhlman et al., 2014; Smit & Jager, 2018). In addition, the abolition of the sugar quota in 2017 resulted in declining sugar prices. Both developments have had a significant impact on the income of farmers in *De Veenkoloniën*.

Apart from these direct challenges to farmers' incomes, *De Veenkoloniën* faces socio-economic challenges that are typical for peripheral rural areas, such as population decline, limited employment possibilities, and a loss of public services (Smit et al., 2005; Februari, 2009; Karel, 2012; Ministery of the Interior and Kingdom Relations, 2018). These developments make it more difficult to find

suitable farm successors (Provincie Groningen, 2012; Rook, 2014; SPG, 2018) – a situation that is reinforced by relatively high land prices, high farming business value, and lack of available labour.

In terms of environmental challenges, intensive farming practices have led to a rapid decrease in the amount of organic matter in soils (Smit & Jager, 2018). Moreover, starch potatoes are vulnerable to nematodes and fungi, which cause e.g., potato blight (NVWA, 2018; Smit & Jager, 2018). Soil and crop quality have also been affected by volatile weather patterns, including periods of both drought and extreme precipitation (Prins, 2011). These extreme weather situations are expected to worsen as the result of climate change (Van den Hurk et al., 2014).

### 2.4.2 Analysis of policy goals

*Main goals of the CAP and relation to the farming system*

Since 1957, the CAP has had five main objectives, as set out in Article 39 of the Treaty on the Functioning of the European Union: i) increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; ii) ensure a fair standard of living for farmers; iii) stabilise markets; iv) assure the availability of supplies; and v) ensure that supplies reach consumers at reasonable prices. In the most recent reform, these objectives were reconfirmed, as shown by the emphasis on continuing income support (European Commission, 2013B, 2016, 2017A, 2017B; Henke et al., 2015), to mitigate the impacts of sudden shocks resulting from e.g., geopolitical events, price volatility, or extreme weather and to improve the competitiveness of the agricultural sector (European Commission, 2013B, 2016, 2017A, 2017B).

In addition to these main objectives, various sub-goals can be identified in the CAP legislation for the period 2014–2020. First, there is an emphasis on a more equitable distribution of direct payments, both domestically and across Member

States (European Commission, 2016). Second, the CAP has become more aligned with environmental and climate objectives through the 'greening' of a share of first pillar payments. Greening requirements include: i) crop diversification to increase the variety of crops grown to halt soil degradation and erosion, thereby improving production capacity; ii) maintenance of permanent grassland for carbon storage and to protect grassland biodiversity; and iii) creation of ecological focus areas (EFAs) on arable land to protect and improve biodiversity in rural areas (Dijksma, 2013; European Commission, 2017B). Member States may introduce equivalent measures as alternatives to the proposed greening requirements.

Policy documents relating to the Dutch implementation of the CAP include various goals that are considered particularly important in the Dutch context. First, the Dutch government aimed for the internal convergence of direct payments, as differences arising from historical entitlements were no longer considered justifiable and resulted in a high dependence on these payments in some sectors (Dijksma, 2014A). To allow potato farmers to adapt and maintain their output levels, the government opted for a gradual convergence, with full harmonisation in 2019 (Dijksma, 2013, 2014A; European Commission, 2016). Moreover, the Dutch government wanted to compensate the potato starch sector in *De Veenkoloniën* by continuing its support for a multi-annual regional innovation programme (*Innovatie Veenkoloniën*). For this goal, the Dutch government used financial means available under CAP Pillar II – co-financed by the provinces – and reserved an extra budget in CAP Pillar I by redeploying the available funds (Dijksma, 2014A). Second, the national and provincial implementation of the CAP placed a strong emphasis on knowledge production and exchange, e.g., relating to disease detection or increasing yields for starch potatoes via collaboration between farming system actors (Dijksma, 2013; Innovatie Veenkoloniën, 2014; European Commission, 2016).

*Robustness*

The CAP's goals target robustness to a considerable extent; there is a strong emphasis on assisting farming systems to bounce back to original states in the event of disturbances. **Figure 2.3** provides an overview of the various ResAT indicators and the associated scores. Below, I elaborate the main insights emerging from the analysis.

The CAP's main goals are clearly characterised by a **short-term focus** (score 4). This is evident, as the main goals prioritise quick recovery after a shock over initiating adjustments to make farming systems less susceptible to shocks, thus emphasizing short-term robustness. Also, the goal of providing farmers with a guaranteed annual, hectare-based income initiates a short-term focus, because it encourages farmers to continue established farming practices, even when these practices are hardly profitable. The greening requirements introduce conditionalities for receiving income support; however, these conditionalities at best require marginal adjustments to current farming practices in *De Veenkoloniën*. The CAP's emphasis on promoting a short-term focus was confirmed by focus group participants.

The CAP's goals are geared towards **maintaining the status quo** (score 4). The goals at both EU and domestic level are focused on maintaining a stable, varied, and safe food supply (European Commission, 2013B, 2016, 2017A, 2017B) and on improving the competitiveness of the agricultural sector (European Commission, 2013B, 2016) The goals legitimise state support for the sector by framing farmers as very important strategic and economic players who are responsible for ensuring food security (European Commission, 2017A, 2017B). The Dutch government explicitly prioritised starch potato farmers' survival after the decrease in income support (Dijksma, 2013, 2014A). This goal very much prioritises ensuring that the arable farming system is preserved despite this policy-induced challenge.

Additionally, the CAP goals stress the need for **buffer resources**. One of the main justifications for continuing income support is that it allows farmers to mitigate the income effects of shocks and stresses (European Commission, 2013B, 2017A, 2017B):

> *"Agriculture is more dependent on the weather and the climate than many other sectors. Furthermore, in agriculture there is an inevitable time gap between consumer demand and farmers being able to supply (…) These business uncertainties justify the important role that the public sector plays in ensuring income stability for farmers."* (European Commission, 2017A)

Moreover, the green payments aim to remunerate farmers for the public goods they supply, as the market prices do not reflect the work involved (European Commission, 2017B), thus functioning as a compensatory buffer resource.

Lastly, the CAP and its Dutch implementation contain goals that emphasise the importance of **other modes of risk management** (score 5). For example, the CAP prioritises "*the creation of mutual funds and insurance schemes to allow farmers to respond better to market instability or fast-falling prices"* (European Commission, 2017A). Stabilising markets, mitigating risks, and preventing further escalation of shocks are core values of the CAP; income effects of shocks and stresses should be confined.

#### *Adaptability*

The CAP policy goals' emphasis on the farming system's adaptability is recognised (**Figure 2.3**). The goals promote adaptation by focusing on interactive knowledge exchange and promotion to diversify agricultural practices towards managing public goods. The key insights are further elaborated in the following paragraphs.

The various identified sub-goals and national goals are mainly characterised by a **middle-term focus** (score 4). The CAP is implemented for a period of seven years,

so these goals generally have a corresponding time horizon. Goals to adapt farming practices should be attainable within a relatively short time span, although the policy documents show some awareness that it may take longer for changed practices to have an effect, e.g., the aim of the greening requirements. The middle-term focus aims mainly to ensure that adaptations fit within the farming system. A clear example is the reasoning behind the Dutch government's decision about a gradual transition towards more equal direct payments – the government's aim being that: "*the transition towards a system of equal hectare payments happens gradually and predictably, allowing businesses to prepare and adapt"* (Dijksma, 2013).

Both the **flexibility** and the **variety** of farming systems are partly supported by the policy goals (score 3). I observed a balance between maintaining EU-wide policy goals and allowing tailor-made goals at national level. An example is the EU goal to allow Member States to introduce equivalent measures as alternatives to the proposed greening measures. At the same time, Member States are restricted by the EU legislative framework in their possibilities for – potentially more effective – tailor-made responses (Dijksma, 2013, 2014C; European Commission, 2013A, 2016, 2017B; Henke et al., 2015).

Many of the goals that support variety in farming systems aim mainly to encourage diversified agricultural practices – for instance, by integrating agri-environmental management schemes that benefit biodiversity, soil quality, or the regional landscape, as emphasised in the following statement:

> *"To develop a plan that meets the Greening requirements of the new CAP in a way that fits the agricultural structure of De Veenkoloniën. This plan ties in with and/or shapes important secondary objectives regarding regional water systems, biodiversity, and landscape quality."* (Innovatie Veenkoloniën, 2014)

However, most of these variety-oriented goals remain rather generic, lacking concrete (intermediate) objectives.

The Dutch national implementation of the CAP includes goals with a relatively strong emphasis on **social learning** within the farming system (score 4), stressing the importance of social interactions between a variety of farming system actors to develop and exchange knowledge. For instance, the Dutch government aims to further stimulate knowledge sharing through training, demonstrations, and practitioner networks (Dijksma, 2013), and the Province of Groningen supports so-called frontrunners to disseminate their knowledge and experience, possibly resulting in a diffusion of adaptive practices (Provincie Groningen, 2012).

*Transformability*

The goals of the CAP and the Dutch national implementation were found to hardly address the transformability of the farming system (**Figure 2.3**). The goals do not promote altering the operational logic of the arable farming system, and dominant mindsets are hardly challenged. These findings are explained below.

The CAP contains few goals with a **long-term focus** (score 2). Those goals that do imply a longer timescale relate mainly to reducing the environmental impact of the agricultural sector. For instance, the CAP aims to tackle climate change and to encourage sustainability by remunerating farmers for agricultural practices beneficial to the climate and the environment through components of the direct payments and the RDP. Whereas the objective shows that long-term environmental concerns are included in the CAP, these concerns remain largely secondary to short-term objectives that emphasise farm income and production support. Moreover, the regional innovation platform sets the ambition that agriculture in the future will have *"closed mineral cycles at the regional level. This will lead to a major reduction of CO2 emissions"* (Innovatie Veenkoloniën, 2014). Similarly, the Province of Groningen (2012) states that *"in the long term, the goal is to have a CO2 neutral agricultural sector."* Organisations recognise that these

goals require large adjustments and are not easily realised. That said, there are hardly strategies or intermediate steps to realise the required transformative change, leaving these goals rather abstract.

The policy goals hardly express any intention to **dismantle incentives that protect the status quo** (score 2). During the focus group, participants confirmed this finding, arguing that changes were incremental and hardly driven by the CAP. This is in line with the strong emphasis in the CAP's goals on protecting the status quo. One of the scarce goals in this respect was the intention to reduce the dependence on direct payments in the starch potato sector. However, this effort was driven by an ambition to make the distribution of payments more equal, rather than to initiate a transformation of the system (Dijksma, 2013; 2014B). The goals focus on continuing business-as-usual practices instead of addressing problematic patterns in the current farming system, such as the increasing intensification of arable farming that causes loss of soil quality and, therefore, of long-term production capacities.

The CAP's policy goals do not include a focus on **in-depth learning** (score 1). Whereas there was some emphasis on *social learning*, aiming for knowledge exchange *between* farming system actors, no attention was paid to possibilities for including actors and ideas from outside the farming system to challenge dominant mindsets. This was confirmed by focus group participants.

The only transformability orientation that was found in both EU and national CAP goals was support for **niche innovations** (score 2). The Dutch government, for example, stated that it aimed:

> *"To support any necessary physical investments for farmers to develop new prototypes, which need to be tested in practice, and for the roll-out of innovations in agriculture and horticulture such as precision farming."* (Dijksma, 2013)

This example clearly shows the aim to support technical progress and innovation. For *De Veenkoloniën*, there is a particular emphasis on the development of new fertilisation systems, monitoring systems, and early detection systems for diseases. However, these types of innovations would primarily reinforce the existing regime; the scope for transformative change resulting from these innovations is dubitable. I therefore assessed these goals as only slightly enabling an acceleration of niche innovations.

### 2.4.3 Analysis of policy instruments

*Main instruments of the CAP and relation to the farming system*

The CAP's instruments are divided between Pillar I, which is fully funded by the EU, for income support and market management, and Pillar II, which requires co-funding from Member States, for rural development (European Commission, 2013A, 2013B, 2016, 2017A). Member State governments have the option to transfer 15% of funds between both pillars. The Dutch government decided to transfer 4.3% of the budget from Pillar I to Pillar II, thereby increasing the budget for rural development measures (Henke et al., 2015; European Commission, 2016).

The direct payments under Pillar I consist of three compulsory elements that every Member State is required to implement: the basic payment scheme, greening measures, and young farmer payments (European Commission, 2013A, 2013B, 2016, 2017A, 2017B). The basic payments scheme works on the basis of hectare-based payment entitlements for all farmers engaged in agricultural practices. The 2013 CAP reform introduced the internal convergence instruments to adjust the basic payments towards a national uniform rate per hectare, instead of being calculated on historic entitlements (European Commission, 2013A, 2013B, 2016, 2017B). The Dutch government decided to gradually introduce the internal convergence mechanism, with full convergence by 2019. The reason for doing this gradually was to alleviate the impact of internal convergence on

agricultural sectors, specifically the starch potato sector (Dijksma, 2014A). The greening payments are also hectare-based and conditional on three generic requirements that are considered beneficial to the environment: crop diversification, maintenance of permanent grassland, and provision of EFAs, for which members states can propose additional equivalent measures. The Netherlands supports a wider set of catch crops, in particular nematodes controlling catch crops, to create EFAs, and has introduced an equivalent package for EFAs in the form of a sustainability certification scheme based on alternative agri-environmental management practices (Dijksma, 2014B, 2014C; Henke et al., 2015; European Commission, 2016). The young farmer payment scheme is a top-up hectare-based payment for farmers younger than 40 years to support farm take-overs and new investments. This extra payment is meant to support generational renewal in the farming system so that the system can continue to function in the future. The young farmer payment accounts for 2% of the total national direct payment allocation (Dijksma, 2014A; Henke et al., 2015; European Commission, 2016).

Member States can also decide to introduce optional measures under Pillar I, such as coupling hectare-based payments to specific products, additional support for farmers located in areas with unfavourable natural conditions, and redistributive payments that increase payments for the first hectares (European Commission, 2016, 2017B). The Netherlands has implemented voluntary coupled support only to a very limited extent (up to 0.5%), through premiums for grazing animals; thus, not covering starch potatoes, sugar beet, and cereals (Dijksma, 2014A; European Commission, 2016).

The market management mechanisms under Pillar I leave almost no room for national implementation choices. In terms of production constraints, the EU decided to abolish all quotas, including for sugar (European Commission, 2013A, 2013B). The CAP's market management mechanisms further provide safety net

measures and options for crisis management by investing in market measures that allow for short-term recovery in the event of market disturbances caused by economic or weather-related shocks (Dijksma, 2013; European Commission, 2013A, 2013B, 2017A, 2017B).

Pillar II instruments are implemented through the Dutch multi-annual Rural Development Programme (RDP), which is co-financed by the EU and the national and provincial governments (Dijksma, 2013, 2014B; European Commission, 2013A). The RDP was developed in collaboration with the Provinces of Drenthe and Groningen, which are responsible for its practical implementation in *De Veenkoloniën* and allows for financial support along five main priorities: i) enabling innovation, knowledge exchange, competitiveness; ii) young farmers; iii) sustainability and nature and landscape management; iv) improving water quality; and v) rural development through the LEADER programme (Dijksma, 2014B).

The Dutch government included a small budget in the RDP to reduce the risks and barriers for new (niche) innovations entering the market (Dijksma, 2013, 2014B). Also, additional national funding for young farmers has been made available to support innovation. The Dutch government also continued to support private weather insurance through a subsidy rate on the insurance premium, using RDP payments. Participation in weather insurance is voluntary (Dijksma, 2013, 2014A, 2014B).

Furthermore, the RDP includes funding for the multi-annual regional innovation programme *Innovatie Veenkoloniën* (Dijksma, 2014A). The programme brings together regional stakeholders that have set up their own agenda and have access to a CAP-supported financial budget. The programme facilitates innovative projects that support the production of starch potatoes in the region (e.g., experimenting with precision agriculture and investing in new potato varieties)

and contributes to knowledge exchange through events, dialogues, and training sessions (Dijksma, 2014A; Innovatie Veenkoloniën, 2014).

*Robustness*

The CAP's instruments address the farming system's robustness to a considerable extent (**Figure 2.3**). Mainly the instruments of Pillar I provide buffer resources and are very much focused on protecting the status quo of the farming system. The key insights are elaborated upon below.

The CAP's instruments enable a **short-term focus** in the farming system (score 4). For example, like across the EU, the direct payments are disbursed annually to farmers in *De Veenkoloniën*. The current set of conditionalities (e.g., greening requirements) hardly require these farmers to change their current practices (European Commission, 2017B). Furthermore, the market recovery measures offer only temporary solutions when *"normal market forces fail – for example, if there is a sudden drop in demand because of a health scare or a fall in prices because of a temporary oversupply on the market"* (European Commission, 2017B). These instruments are solely in place to recover the farming system's income functionality quickly, without tackling the causes of these disturbances.

The CAP instruments provide the farming system with financial **buffer resources**, especially through the hectare-based direct payments (score 4). By offering farmers a secure source of income, the CAP enables them to cope better with price volatility and to preserve their farming business even in the face of very low market prices. The convergence of direct payments reduced these buffer resources for arable farming in *De Veenkoloniën*.

Similarly, the direct payments contribute to **protecting the status-quo** of arable farming in *De Veenkoloniën* (score 4). Direct payments offer "*a stable source of income that is independent of market fluctuations, making a very important contribution to overall farm income for many farm households"* (European

Commission, 2017B). However, this guaranteed source of income also enabled the prolongation of otherwise less competitive agricultural business models, preserving business-as-usual and discouraging business model adaptations.

During the focus group, stakeholders confirmed that the CAP hardly incentivises change, as the direct payments do not require an adjustment in farming practices to maintain incomes. Internal convergence could have put some pressure on the status quo in *De Veenkoloniën*, but the Dutch government limited constraining effects with a transition phase. Furthermore, the young farmer payments promote earlier hand-over within the family rather than the influx of newcomers, further supporting the current functionalities and mode of operation of the farming system.

**Other modes of risk management** are very much emphasised through the market management measures introduced in Pillar I of the CAP (score 5). Market management is now primarily targeted at mitigating emergencies, e.g., through public intervention and private storage aid, and through safeguard clauses funded from a crisis reserve fund at EU level (Dijksma, 2013; European Commission, 2013A, 2013B, 2017A, 2017B). These market management instruments are used primarily to allow for short-term recovery in the event of economic and weather-related shocks. Risk management is further supported by the possibility of voluntarily taking out private weather insurance in the Netherlands, supported by the Dutch government through RDP payments. The policy instruments are used to make sure that the shocks do not escalate further and to help the system to move back quickly to its initial state.

*Adaptability*

The CAP's instruments prove fairly enabling for the farming system's adaptability (**Figure 2.3**). The instruments allow for some adaptation through their focus on the middle-term, by enabling flexibility and variety, and providing possibilities for social learning. These findings are explained below.

Several instruments focus to a certain extent on **the middle term** (score 3). For instance, the young farmer payment is granted for up to five years, allowing young farmers to plan decisions regarding e.g., take-overs or investments. Another example is the gradual convergence mechanism implemented by the Dutch government to provide arable farmers in *De Veenkoloniën* a middle-term time period to prepare and adapt to the reduced basic payments. Also, the Dutch government continued its financial support for agri-environmental management through the RDP to reduce the decline of biodiversity in rural areas. Lastly, various monitoring instruments are in place for multiple years to provide insights into experiments, projects, or policy effects (Dijksma, 2014B, European Commission, 2013A, Innovatie Veenkoloniën, 2014).

The CAP's instruments foster **flexibility** and **variety** to a considerable extent (both score 3). The CAP allows for flexibility by giving Member States some leeway in policy implementation, e.g., by proposing equivalent greening measures.

> *"Member States may allow farmers to meet one or more greening requirements through equivalent (alternative) practices. This means that some practices can replace one or several of the three established greening measures."* (European Commission, 2017B)

This allowed the Dutch government to adjust the greening measures to better fit the national context. However, leeway provided by the CAP is limited by strict requirements constraining tailor-made solutions. For instance, there is no room for national decisions regarding crop diversification, and Member States can only choose from a set of predetermined options for how to implement EFAs.

Variety is introduced mainly through instruments that promote diversification through general agri-environmental and rural development activities, e.g., the RDP and three of its five priorities (sustainability and nature and landscape management, improving water quality, and rural development through the

LEADER programme) (Dijksma, 2014B). Moreover, the greening measures may in principle result in adaptation, but their specific calibrations induce little change to arable farming in *De Veenkoloniën*.

The CAP contains various instruments that enable some degree of **social learning** (score 3). These instruments are all part of Pillar II. The RDP provides financial resources to organise events, such as training sessions or dialogues, to foster knowledge exchange, and especially the LEADER approach, which enables partnerships to be formed at regional or local level to contribute to rural development (Dijksma, 2014B; European Commission, 2017A). Moreover, *Innovatie Veenkoloniën* provides a well-functioning platform for actors to engage in knowledge exchange through interaction. However, the question remains as to whether these instruments, which are focused on social interaction, indeed lead towards the integration of adaptive practices.

*Transformability*

The CAP instruments hardly target the transformability of the case study farming system, except for the promotion and acceleration of some niche innovations (**Figure. 2.3**). These findings are explained below.

The CAP contains few instruments that **focus on the long-term** or **dismantle incentives that support the status quo** (both score 1). On the contrary, the instruments focus on maintaining the status quo, thereby constraining structural change. Stakeholders participating in the focus group confirmed this finding, arguing that CAP instruments were hardly focused on the long-term, as a direct need for structural change was not yet felt. They argued that the CAP did not anticipate change and contained few elements to considerably alter the current system's functionalities. Instead, most new instruments, such as the greening measures, were designed to maintain the farming system in its current state. Whereas some measures are introduced for environmental reasons in both Pillar I (greening measures) and Pillar II (voluntary agri-environmental-climate

schemes), their environmental effects are questionable as farmers are barely required to change their practices in order to be eligible for these payments (see ECA, 2017; Dupraz & Guyomard, 2019; Matthews, 2020), making these measures rather symbolic. However, the abolition of the sugar quota did disincentivise the status quo as it indirectly affected the income of arable farmers in *De Veenkoloniën*. Nevertheless, sugar beet production and processing remained a core functionality of the farming system.

Additionally, the CAP and its implementation in the Netherlands do not facilitate **in-depth learning** in and beyond the farming system (score 1). Despite the existence of various instruments designed to enable learning (e.g., supporting training sessions, workshops, or networks that exchange knowledge on innovation competitiveness through RDP financing or Innovatie Veenkoloniën), these instruments mainly enable social learning within the sector, but do not encourage the introduction of new knowledge and perspectives from outside the farming system. Consequently, these instruments do not challenge dominant mindsets. The absence of in-depth learning instruments was confirmed by focus group participants.

The enhancement and acceleration of niche innovations is the only transformability characteristic that is supported to some extent (score 3). The RDP provides multiple financial resources for innovation, and the multi-annual innovation programme Innovatie Veenkoloniën contributes to initiating innovative projects and experiments in the region (Dijksma, 2014A; Innovatie Veenkoloniën, 2014). That said, the instruments' effect on the transformability of intensive arable farming in *De Veenkoloniën* is restricted, as most innovations involve adaptations of existing agricultural practices, rather than enabling the emergence of genuinely new practices.

## 2.5 Discussion

In the case study, I applied the ResAT to analyse how the policy output of the CAP and its Dutch implementation during the period 2014–2020 enabled or constrained the resilience of the intensive arable farming system in *De Veenkoloniën*. In this section, four key reflections that emerge from the analysis are discussed.

First, the analysis shows that there are clear differences between the extent to which the CAP's policy outputs enable the robustness, adaptability, and transformability of intensive arable farming in De Veenkoloniën. Whereas the CAP strongly supports the robustness of the arable farming system in the case study, it focuses less on enabling adaptability and hardly on transformability. The CAP's support for robustness resonates strongly with ideas that legitimise specific state support for farming to provide resources for established farming practices and to continue business-as-usual (e.g., hectare-based direct payments and market management measures of Pillar I). This finding fits with other analyses of the CAP (e.g., Feindt, 2010; Lowe et al., 2010; Alons, 2017; Greer, 2017), in which it is argued that the CAP is characterised mainly by *agricultural exceptionalist ideas* that justify and legitimise the EU's special treatment of the agricultural sector (see Skogstad, 1998; Daugbjerg & Feindt, 2017); and that the CAP 2013 reform hardly introduced substantive change in the CAP but reinforced policy elements that focus on retaining the status quo (see Swinnen, 2015A). The CAP's almost exclusive focus on robustness arguably affects the system's capability to overcome all its challenges, especially challenges that require a more long-term approach, or that are simply too forceful to maintain the status quo. For example, this robustness-oriented approach might be suitable for arable farmers in De Veenkoloniën to recover from damage inflicted by extreme weather events in the short run. However, devoting too much attention to robustness might neglect possibilities for farmers to adapt their practices to a changing climate in the long

run. It is likely that the strong focus on robustness is the result of policy trade-offs between the resilience dimensions within the CAP. These kinds of complex relationships between the three resilience dimensions leading to possible trade-offs have already been pointed out frequently in the resilience literature (e.g., Béné et al., 2012; Hill Clarvis et al., 2014; Anderies et al., 2013). Moreover, Ashkenazy et al., (2018) even found that strategies focused on enabling persistence [robustness], adaptability, or transformability may undermine one another, making it difficult for a single strategy to amplify all three resilience dimensions. The ResAT's distinction between the three resilience dimensions provides possibilities to systematically analyse trade-offs in policies.

Second, I observed that, whereas policy goals covered all three resilience capacities, instruments were largely restricted to enabling robustness and, to a much lesser extent, adaptability, and transformability. For instance, the CAP aims for various middle-term environmental goals – improvements to soil quality, carbon storage, and biodiversity – that help farming systems to adapt. Yet, the proposed greening measures, which invoke these goals, hardly require farmers to adapt their current farming practices and have been criticised for their ineffectiveness in reaching environmental goals (e.g., ECA, 2017). These types of mismatches show that the CAP's policy goals, and instruments do not complement one another. Previous research suggests that policies that evolve over a long period of time – such as the CAP – often have weaker policy consistency, coherence, and congruence, which are regarded as important for integrative and effective policies (see Howlett, 2019). Mismatches between policy goals and instruments may very well affect the CAP's capability to enable resilience.

Third, although the insights of the case study cannot be generalised to other EU farming systems, I expect that various findings may apply in other contexts as well. For instance, we found that the robustness of intensive arable farming in De Veenkoloniën is promoted through the hectare-based direct payments, revealing

the importance of owning land for the CAP to have a robustness-enabling effect. The same might be true for other land-based farming systems in the EU. In contrast, this robustness-enabling effect of Pillar I of the CAP would be less relevant to non-land-based farming systems (e.g., horticulture or intensive livestock and poultry farming). Furthermore, on leased land, the hectare-based payments are often passed on to the landowner, who might have little other relation to the farming system, thereby minimising the contribution of these payments to its robustness. Nevertheless, one should be cautious with generalising ResAT findings of a single farming system case. I reason that the CAP's resilience-enhancing or resilience-constraining capabilities are very dependent on the farming system's characteristics, such as its functions, its regional context, and the specific challenges that it faces (see also Ashkenazy et al., 2018). For instance, De Veenkoloniën faces challenges that are specific to the system (e.g., the shock caused by the convergence mechanisms largely affecting starch potato farmers' incomes, the loss of soil quality due to increasing intensification of starch potato farming, or the sensitivity of the peat soils to droughts caused by climate change), which require specific policy interventions to be able to strengthen the system's resilience. Farming systems across the EU vary widely in their characteristics and are exposed to different economic, social, or environmental stresses and shocks. It is therefore unlikely that the results of De Veenkoloniën, with its own specific characteristics and challenges, translate directly to other farming systems. Moreover, Member States vary significantly in their CAP implementation choices, resulting in different goal priorities and configurations of instruments, both in Pillar I and Pillar II. These implementation choices of Member States will determine how the CAP enables or constrains the resilience of farming systems. A logical follow-up study would, therefore, apply the ResAT to multiple different EU farming systems to compare results, leading to a more complete picture of the CAP's enabling and constraining effects on the resilience of different farming systems.

Fourth, the ResAT's top-down approach appeared to be useful for examining systematically the different extent to which the outputs of public policies are suitable for enabling or constraining the robustness, adaptability, and transformability of complex systems. However, it is important to keep in mind that, if a policy appears to enable resilience, this does not automatically imply that the farming system uses this improved capacity. Therefore, a recommendation for follow-up research is to conduct an in-depth bottom-up case study on how farming system actors experience the influence of policies on the resilience of the system. Such follow-up research would complement the top-down findings and could help to create more empirical evidence on the relationship between policy outcomes and resilience.

Last, the ResAT and its coloured wheels proved to have a discussion-initiating character, which was emphasised by the extensive reflection among the focus group participants on the current way of thinking about resilience and policies. This implies the tool's usefulness for stimulating discussion with policy practitioners about the resilience effects of public policies. It is important for these discussions to stress that the ResAT does not measure the policy's actual impact on resilience and that the traffic-light coloured wheels do not imply a normative judgement of the policy. The ResAT should, therefore, always be accompanied with an explanation of the analysis and the results that specifies the purpose of the tool.

## 2.6 Conclusion

This chapter started with the question of how to analyse whether and how the CAP enables or constrains farming systems' resilience. I introduced the ResAT as a heuristic to examine how policies affect farming systems' resilience. The ResAT provides a systematic set of indicators for resilience-enabling policies per resilience dimension (robustness, adaptability, and transformability). I applied the ResAT to the case of the intensive arable farming system in De Veenkoloniën.

The results show that the CAP and its Dutch implementation strongly support the robustness of the arable farming system, but that they focus less on adaptability and hardly on enabling transformability.

At the time of writing, the CAP post-2020 reform process is in full swing. The current CAP proposals already move towards more flexible and context-sensitive policy design as Member States can indicate their national priorities and implementation choices via National Strategic Plans. Also, the proposed eco-schemes would allow Member States to develop more performance-based schemes that incentivise farmers to undertake agri-environmental or climate activities. Despite these promising changes, it seems that the proposed CAP post-2020 will not differ significantly from its current form as it will largely continue to keep following a robustness-oriented approach, for instance, by maintaining hectare-based payments. Furthermore, the European Commission presented its Farm-to-Fork Strategy on May 20, 2020 in which it introduces its plan for the transition towards a sustainable EU food system. Whereas previous CAP reform rounds have proven to result in incremental change only, it seems that the National Strategic Plans and the CAP post-2020 reform will need to adhere to the European Commission's longer-term vision. It remains to be seen whether and how this will affect the overall reform outcome.

Small incremental changes to the CAP will not suffice this time if the EC truly wants to deliver on its ambitious goal of ensuring a more resilient agricultural sector in Europe. Continuing a robustness-oriented approach within the CAP would neglect the capability of farming systems to adapt to long-term stresses, e.g., climate change, soil degradation, or rural out-migration. The findings suggest the need to integrate a broader perspective on resilience into the CAP, one that moves beyond quick adjustments to withstand shocks in the short run and embraces a more long-term approach that allows for adaptations and change. This approach would entail more supportive measures for farmers and farming

systems to develop their adaptability to changing conditions and their capacity to transform mainstream agricultural practices where needed to preserve the provision of food, other bio-based resources, and ecosystem services, now and in the future.

Overall, the ResAT is a useful analytical tool for policy practitioners who aim to investigate and reflect on how policies address the resilience of farming systems. The tool may help policy practitioners who want to compare resilience-oriented policy choices, especially in relation to the three resilience dimensions of robustness, adaptability, and transformability. The tool, or an adaptation, may also prove useful in other policy areas. The results of a ResAT analysis are valuable inputs to stimulate discussion with relevant actors about policy design choices to address identified resilience challenges. These features make the tool suitable to aid the search for resilience-enhancing policy improvements that take into account an appropriate balance between robustness, adaptability, and transformability. The ResAT thereby contributes to a more extensive understanding of how EU agricultural policies, and public policies more generally, affect the resilience of complex systems.

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# Chapter 3

# Policies and farming system resilience: a bottom-up analysis

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## Abstract

The European Commission considered improving the resilience of Europe's farming systems as one of the core ambitions of the Common Agricultural Policy (CAP) post-2020. The CAP appears essential for farming systems' resilience, but its resilience-enabling effects in practice remain underexplored. Whereas top-down policy analysis can offer insights into the match between policy objectives and outcomes, this type of analysis does not account for how farming system-level actors experience the policy outcomes. A policy can appear to support resilience, but this does not automatically imply that intended outcomes correspond with experienced outcomes (and preferences) of involved actors. Moreover, it is possible that multiple implemented policies interact and share interdependencies that affect resilience at the level of the farming system. This chapter, therefore, sets out a bottom-up approach for policy analysis to understand how farming system actors experience whether and how policies enable or constrain the resilience of their respective farming system. Bottom-up analyses of the CAP and relevant adjacent policies in five European farming systems were conducted by using in-depth interviews with a broad range of regional policymakers and stakeholders (e.g., farmers and farmers' representatives, agricultural advisers, representatives of environmental NGOs). Subsequently, the findings of the preliminary analyses were reviewed in regional focus groups attended by policymakers and stakeholders. The chapter concludes that the CAP contains a robustness-oriented approach, which actors expect to buffer stress and shocks, while adaptation receives less support and transformation is neglected. Policies need to a take a broader, integrated approach towards farming systems' resilience.

# 3. Policies and Farming Systems Resilience: A Bottom-Up Analysis

## 3.1 Introduction

The interest in the concept of resilience is growing in both academic and practitioner circles concerned with food systems and policymaking (e.g., Fan et al., 2014; Civita, 2015). The mere fact that, at the time of writing, the impact of COVID-19 alone initiated a surge in research on how to enhance the resilience of food systems worldwide only confirms this growing interest. It is because of such shocks, but also worldwide competition, volatile markets, geo-political tensions and ongoing stresses like climate change and environmental issues, that the European Commission (EC) is increasingly realising the importance of having resilient EU agricultural and food systems in all circumstances. Hence, when presenting its legislative proposals for the Common Agricultural Policy (CAP) post-2020, the EC already explicitly emphasised that the CAP should contribute to 'ensuring a more resilient agricultural sector in Europe' (European Commission, 2018B). Moreover, the Farm-to-Fork Strategy, as part of the EU's Green Deal, is introduced with the aim to strengthen EU food systems' resilience (European Commission, 2020A, 2020B). Whereas shocks and stresses affect food systems at large, enhancing resilience includes supporting local farms and farming systems to manage and respond to the different shocks and stresses while maintaining their essential functions, like producing food, providing employment and income, and preserving rural areas, ecosystem services and biodiversity (Meuwissen et al., 2019). The increasing attention on resilience reflects a need among policymakers to find ways to better support complex systems and their critical functions in times of rapid and unpredictable economic, social, environmental, and political change.

The concept of resilience has received attention in the Policy Sciences, primarily by scholars who focused on how to design policies that are capable to deal with

uncertainties, i.e., the resilience of policies themselves (e.g., Swanson et al., 2009; Howlett, 2019). However, public policy research to date has barely analysed the (potential) effects of policies on the resilience of complex systems (Feindt et al., 2020). In contrast, the system resilience literature was more interested in understanding how public policies can reinforce the resilience of complex systems, such as bio-based production systems (Ge et al., 2016), energy systems (Gatto & Drago, 2020) and urban infrastructures (Béné et al., 2016). This body of literature has provided valuable insights into the policy variables that can affect the resilience of complex systems, mostly by following a top-down approach to analysing (potential) policy impacts and the degree of goal attainment over time. However, less knowledge is available on how public policies influence the resilience of farming systems 'in practice' (i.e., within the implementing environment and its contextual factors, Berman, 1978). The effects of agricultural policies are mostly studied at the farm level. Effects at the level of farming systems, where multiple policies interact, leading to synergies or trade-offs that might also affect system resilience, have received less attention. Contextual routines and private incentives might affect the resilience effects of policies, too. Moreover, whereas a policy might be designed with the intention to support the resilience of farming systems, its actual effects might be experienced differently on the ground, depending on the farming systems' characteristics, local context, and the expectations of the targeted actors. Comprehending how actors in farming systems experience policies and their resilience effects is indispensable for understanding the relationship between policies and resilience. This can also help policymakers draw lessons and adjust policy design and delivery.

Against this background, this chapter seeks to address whether and how policies enable or constrain the resilience of farming systems through the perspectives of actors at the farming-system level. I set out a bottom-up approach for policy analysis to analyse how actors within and surrounding a farming system experience the resilience effects of the CAP and relevant adjacent policies (e.g.,

regulation of plant protection products, legislation on manure and fertilisers, support for weather risk insurance, environmental policies, or land tenure legislation). The analysis draws on in-depth interviews with a broad array of relevant actors in five European farming systems. The interviews provided us with a wider picture on the enabling or constraining effects of policies on the resilience of farming systems from the respondents' perspectives. Subsequently, the findings of the interviews were reviewed in regional focus groups and, eventually, compared. The chapter proceeds with elaborating the theoretical perspective that guides the analysis (**Section 3.2**). This is followed by an explanation of the research methods (**Section 3.3**). Subsequently, the main findings of the bottom-up analyses of the CAP and relevant adjacent policies in the five European farming systems are presented (**Section 3.4**). The chapter ends with reflections on the key findings that have emerged from the bottom-up analysis (**Section 3.5**).

## 3.2 Theoretical Framework

### *3.2.1 Public policy and resilience capacities*

Resilience is understood as the capacity of farming systems – i.e., regional networks of comparable farm types and other non-farm actors within an agroecological context – to absorb or respond to shocks and stressors, while maintaining their essential functions (**Chapter 1**). Following this dissertation's approach, I distinguish between three resilience capacities of farming systems: robustness, adaptability, and transformability (**Chapter 1**). As farming systems are open systems, not only internal features but also external influences, such as public policies, affect the systems' capacity to maintain the desired functions in the face of adverse developments.

Both the resilience and policy sciences literature have acknowledged the potential of public policies to affect a system's resilience in several ways. Various academics

have made efforts to identify specific policy characteristics that may improve the resilience of complex systems, e.g., through enabling polycentricity, accommodating self-organisation and knowledge networks or by encouraging learning and experimentation (Van den Brink et al., 2014; Béné et al., 2016; Karpouzoglou et al., 2016). These studies, however, generally do not distinguish between the robustness, adaptability, and transformability of farming systems. Supporting each of these resilience capacities requires different types of policies, each with different priorities and goals, instruments, and budget requirements. In Chapter 2, I have argued that **robustness-enabling policies** are characterised by a short-term focus on recovery of existing functions of the system, protecting the status quo, providing buffer resources and government-supported modes of risk management. **Adaptability-enabling policies** are characterised by a focus on the medium term (one to five years) and flexibility that allows for tailor-made responses, they enable variety between and within farming systems, and support social learning. Policies may enable **transformability** through a long-term focus, dismantling incentives that support the status quo, and supporting in-depth learning and niche innovations.

Even when policymakers design specific policies in such a way that they may support the different resilience capacities, systems are affected by a broad range of policies which possibly produce divergent effects. This collection of policies forms a complex policy mix in which many policy goals and instruments interact (Howlett & Rayner, 2007; Howlett, 2019). Farming systems in the EU are affected by the CAP which pursues numerous goals, uses a diverse set of instruments, and operates at the European, national, and regional levels, making it a complex policy mix in its own right. At the same time, the CAP is only one of many policies affecting EU farming systems, the interactions between which remain unclear, adding extra instruments to the mix. Various academics have discussed that one risk associated with overly complex policy mixes is that they likely contain inconsistent instruments with ambiguous means–ends relations that lead to

trade-offs and reduced effectiveness (Howlett & Rayner, 2007; Howlett, 2018). Specifically, certain policy instruments can support one resilience capacity, while at the same time constraining others (Ashkenazy et al., 2018). For example, whereas subsidies related to existing production methods may enhance robustness, they may also constrain adaptability or transformability by reducing recipients' motivation to diversify practices or to explore niche innovations.

Following a top-down policy analysis approach, Chapter 2 and SURE-Farm research analysed the operational logic of the CAP and its national implementations from a resilience perspective. Whereas the CAP and its national implementation aim to support farmers, to ensure food security, and to contribute to sustainable agriculture and rural development in Europe, they were not necessarily designed with resilience intentions. However, the resilience concept proved useful to examine the CAP's capability of supporting complex farming systems. The top-down analysis revealed that different CAP instruments unequally affect different resilience capacities of EU farming systems (Feindt et al., 2018; SURE-Farm, 2020). Despite some differences in the national CAP implementations, a comparison across EU farming systems revealed regular connections between certain instruments and resilience capacities (**Table 3.1**).

| Robustness | Adaptability | Transformability |
|---|---|---|
| ▪ Direct payments (basic payment scheme, greening payments, and young farmer payments).<br>▪ Market safety net instruments.<br>▪ Crisis reserves.<br>▪ Support for insurance schemes. | ▪ Agri-environmental programmes in the RDPs.<br>▪ Investment support linked to sustainable farming practices.<br>▪ LEADER programme in RDPs.<br>▪ Options to tailor national and/or regional implementation of the CAP (e.g., modulation between Pillar I and II; optional direct payment measures; and options for designing RDPs). | ▪ Support for organic farming.<br>▪ The European Innovation Partnerships 'Agricultural Productivity and Sustainability' (EIP-AGRI).<br>▪ Support for new rural value chains to encourage niche innovations. |

**Table 3.1:** *How CAP instruments affect the resilience capacities of farming systems*. (see Feindt et al., 2018; SURE-Farm, 2020).

The top-down analysis showed that the CAP is strongly focused on supporting robustness. Most of the CAP financial resources are used for income support measures that provide buffer resources and allow farmers to continue their current business model. At the same time, the CAP offers less resources for instruments that enable adaptability. Only some measures in the Rural Development Programs (RDPs) encourage social learning, cooperation, and innovations. Finally, the top-down analysis found that the CAP constrains transformability because business-as-usual remains strongly supported. Only the CAP's support for organic farming, new rural value chains or the EIP-AGRI were found to be designed to support changes in the operational logic of farms or value chains. Generally, the CAP provides little support or direction for long-term

change through, e.g., in-depth learning or by encouraging radical innovations. While the top-down analysis provided a systematic examination of the extent to which the CAP's policy output is expected to enable or constrain the three resilience capacities, these previous findings were not necessarily congruent with the experiences of actors who deal with the CAP as part of their everyday practices. A bottom-up analysis of how actors involved in farming systems experience the policies and their effects, therefore, offers complementary insights into how the CAP and adjacent policies enable or constrain farming systems' robustness, adaptability, and transformability in practice.

### *3.2.2 A bottom-up approach to analysing policy effects on farming systems' resilience*

Bottom-up approaches to policy analysis differ from top-down approaches in that they move the analytical focus away from policy outputs and goal attainment to the specific contexts in which a policy is implemented. As such, they share an interest in local actors' perspectives on policy delivery and impacts (Nilsen et al., 2013). Bottom-up approaches have, for instance, often been used in policy implementation research, where they have demonstrated that putting public policies into practice and attaining intended outcomes is far from straightforward (Berman, 1978; Matland, 1995). For example, the EU aims to improve regional economic development and collaboration through its Cohesion Policy, which follows principles that are identical across the Member States. However, Dąbrowski (2013) used a bottom-up approach to show that the Cohesion Policy's implementation and effectiveness vary across regions due to differences in, e.g., traditions of decentralisation and collaborative policymaking, or the administrative capacity and resources of sub-national authorities. So, whereas European policymakers can influence the policy output, they can hardly control how the local-level context will affect the policy, leading to variation in policy effects (Berman, 1978). Given that policies and their effects seem to differ

depending on the context in which they are implemented, the effects of the CAP and adjacent policies on resilience were studied in view of the farming systems' setting, key functions, and main challenges, i.e., shocks, stresses, and opportunities.

Bottom-up approaches to policy analysis usually start with collecting the perspectives of actors who interact at the local level of the implementing environment or are related to a specific policy problem for different reasons (Sabatier, 1986). First, actors closest to the farming system provide valuable insights into the effects of policies on the system through their practical experiences (Huttunen, 2015). Actors within and surrounding farming systems deal with the policies in practice almost daily and, therefore, have important insights into the policies' effects and implications at the farming-system level. For example, Huttunen et al., (2014) analysed the perspectives of stakeholders in Finnish biogas production, revealing that cross-sectoral policies related to biogas production were incoherent and led to opposing influences in triggering the adoption of innovative biogas technologies. Furthermore, how actors experience and respond to policies is partly a retrospective and interactive process. Actors' identities, experiences, knowledge, attitudes, and interactions shape their perceptions of the policies' effects (Termeer et al., 2007; De Lauwere et al., 2016). Bottom-up approaches make it possible to consider the interactions and exchange of information about policies between actors related to the system.

Whether and how actors within and surrounding farming systems experience and respond to policies also influences the policies' effects on resilience. As argued by Hemerijck (2003), successful policy implementation also entails that a policy is deemed acceptable by the affected groups to receive sufficient support and be effective. For example, Huttunen (2015) found that agri-environmental policy measures hardly received support, as farmers perceived them as incoherent with their farming practices, experiences, and daily lives, resulting in poor uptake and

functioning of the measures. Similarly, Bouma et al., (2020) found that the decision of Dutch farmers whether to adopt more nature-inclusive farming measures partly depended on the level of rules, regulations and obligations that come with these measures and whether the farmers considered them acceptable. Policy research on bureaucratic rules and procedures further confirms that when actors experience rules, regulations, and procedures as complex or burdensome, they are more likely to experience negative emotions, such as confusion, frustration and anger that reduce acceptance and support of the policy (Hattke et al., 2019).

In order to effectively analyse actors' experiences regarding the CAP and adjacent policies' effects on farming systems' resilience, I draw on the theoretical insights presented earlier and develop a bottom-up approach to focus on specific topics. Starting from the challenges that the actors within and surrounding the farming systems experience as most urgent, I analyse how actors experience the effects of policies on the farming systems' resilience capacities. I do so by examining which instruments of the CAP or adjacent policies are considered most influential – supporting or hindering – in dealing with the previously identified challenges, as perceived by the actors. Subsequently, I analyse if the intended effects of the most influential CAP instruments or adjacent policies corresponded with how the actors within and surrounding the farming systems experienced the policy effects. I argue that differences between intended and experienced effects might indicate that the policies interact with one another or with contextual factors at the farming-system level. If actors suggested changes to the CAP or adjacent policies to better fit the context of their local farming system, these suggestions were analysed as well, because they potentially reveal causes behind problems and possible solutions that can go unnoticed by conducting a top-down analysis. This bottom-up analysis ends by investigating how actors involved in the farming systems access information and learn about the most influential policy

instruments to consider the influence of interactive processes on how actors experience policy effects.

### *3.3 Research methods and data*

To comprehend the resilience effects of complex policy mixes through the perspectives of actors within and surrounding farming systems, Several SURE-Farm partners and I conducted bottom-up analyses of the CAP and relevant adjacent policies in five European farming systems. Since the CAP affects all EU farming systems, it was decided to analyse its resilience-effects for different types of farming systems across the EU. The selected farming systems are: dairy farming in Flanders (Belgium), intensive arable farming in De Veenkoloniën (the Netherlands), private family fruit and vegetable farming in Mazovia and Podlasie (Poland), extensive sheep farming in Aragón (Spain) and large-scale arable farming in the East of England (United Kingdom). The farming systems differ considering their challenges, farming types, production of private goods, agro-ecological context and affected public goods, ensuring variety between systems and allowing us to explore variations in policy influences.

Across the farming systems, we conducted ninety-eight semi-structured interviews with a broad range of farming system actors between January and April 2019. In addition, we organised regional focus groups in each of the five farming system regions between August and October 2019, allowing respondents to review the researchers' interpretation of the data. Interview respondents included farmers and family members, (regional) policy practitioners, farm accountants, advisers, representatives of farmers' organisations, environmental NGOs, agro-industry, and farmers' co-operatives. The interviews were designed to collect data about the enabling or constraining effects of the CAP and adjacent policies on the resilience of farming systems from the respondents' perspectives. In order to ensure comparability, each interview broadly covered the following themes: (1) farming systems' setting and main challenges (e.g., Can you describe

the farming system? What challenges do you identify?) (**Table 3.2**); (2) policies and their effects (e.g., Which policies are most influential on the farming system? How do you experience the effects of these policies on the functioning of the farming system to deal with the identified challenges?); (3) information and learning (e.g., How do you acquire knowledge about the CAP and other policies? With whom do you have contact and communicate with about the most influential policies?).

| Farming system | Main challenges |
|---|---|
| *Dairy farming in Flanders (BE)* | **Economic:** Input and output price volatility; access to land<br>**Social:** Lack of farm successors or new entrants; low societal appreciation for agriculture; low horizontal collaborations between farmers due to competition; farmers' health and well-being<br>**Environmental:** Increasing environmental regulations and requirements<br>**Institutional:** Policies and legislation are perceived as inconsistent, inflexible, and unpredictable; increasing administrative burdens |
| *Intensive arable farming in De Veenkoloniën region (NL)* | **Economic:** Increasing input and maintenance prices; increasing competition for land and increasing land prices; costly farm succession<br>**Social:** Lack of new entrants; low societal appreciation for agriculture<br>**Environmental:** Soil health; concerns about pests and plant diseases; more extreme weather events (climate change); water supply, holding and drainage<br>**Institutional:** Inconsistent and unpredictable policies and legislation |
| *Private family fruit and vegetable farming in Mazovian region & Lubelskie region (PL)* | **Economic:** Low profitability and price fluctuations; increasing input and maintenance prices; increasing (international) competition; high insurance costs<br>**Social:** Lack of seasonal labour due to (rural) outmigration; lack of farm successors and new entrants; low horizontal and vertical collaboration due to distrust between actors<br>**Environmental:** More extreme weather events (climate change); water supply and drainage; soil depletion; concerns about pests and plant diseases.<br>**Institutional:** Inconsistent and unpredictable policies and legislation that lack a long-term vision |

| | |
|---|---|
| *Extensive sheep farming in Aragón (ES)* | **Economic:** Decreasing incomes and lowering prices; increasing (international) competition; increasing competition for land and increasing land prices<br>**Social:** Lack of farm successors, new entrants, and labour due to (rural) outmigration<br>**Environmental:** More extreme weather events (climate change); water supply and drainage; wild fauna attacks; overgrazing due to intensification<br>**Institutional:** Inconsistent and unpredictable policies and legislation |
| *Large-scale arable farming in East of England (UK)* | **Economic:** Price volatility; increasing (international) competition<br>**Social:** Lack of (seasonal) labour; lack of farm successors and new entrants<br>**Environmental:** Soil health; concerns about pests and plant diseases; more extreme weather events (climate change); water supply<br>**Institutional:** Uncertainty due to Brexit, including changes in agricultural and trade policies; inconsistent and unpredictable policies and legislation; lack of access to advice and service |

**Table 3.2**: *The main challenges of the farming systems as identified by respondents*

After the interview rounds, the SURE-Farm partners and I coded the interviews starting from a pre-set code book (deductive coding) that allowed inclusion of concepts and themes relating to the specific farming systems' context that emerged from the data (inductive coding). The code book followed the interview themes and related guiding interview questions. For each theme, codes were set up by the researchers that followed from desk research (i.e., exploring research articles, policy documents, statistics) and data of previous SURE-Farm research. The codes were provided with a comprehensive definition, making clear the criteria for inclusion. The coding served to identify and critically analyse text fragments that contained references to policies in general, specific policy instruments and policy effects. Use of the code book and coding decisions were discussed within the research team on several occasions. The researchers interpreted and organised the respondents' policy-related experiences and connected them by determining how the policies affect farming systems'

resilience in relation to the three capacities, i.e., robustness, adaptability, and transformability. We used the specific policy indicators for resilience-enabling policies identified in Chapter 1 (see also **Section 3.2.1**) to guide this step. The researchers thus engaged in a process in which they interpret the answers and statements shared by respondents that aim to make sense of their own experience (Smith et al., 2009). Finally, I conducted a cross-case comparison of how the interviewed actors experienced the effects of policies on the farming systems' robustness, adaptability, and transformability.

## 3.4 Results

I now present the key results of the comparative bottom-up analysis of the five farming systems. For the comparison, I especially focused on examining similarities and differences regarding the resilience enabling or constraining effects of the most influential instruments of the CAP and adjacent policies, as perceived by the respondents. I structured the respondents' experiences with the policy effects according to their congruence with the capacities of robustness, adaptability, and transformability.

### *3.4.1 Robustness*

Many respondents indicated that policies are mainly designed to offer farmers income support and funding opportunities to ensure that their farming system remains productive and to maintain a certain income stability in case of shocks or fluctuations. The CAP's direct payment scheme was especially considered by many respondents an influential policy instrument for supporting the robustness of farming systems, particularly in the Flemish, Dutch, Spanish and UK case. The direct payments scheme, which consists of basic payments, greening payments and young farmer payments, is perceived as offering a guaranteed income for farmers, while the payments are recognised as hardly requiring any major changes to the established practices within the farming system. In the Polish case,

the direct payments were regarded less influential because the fruit and vegetable farmers in this farming system own relatively little land. Therefore, the area-based payments do not make a significant contribution to their income, while profits per hectare are generally higher for fruit and vegetable farmers compared to arable or grassland-based farming systems. Moreover, direct payments per hectare are historically lower in Central and Eastern European Member States compared to Western European Member States. Respondents across the five farming systems suggested that the direct payments were a financial compensation for increasing costs and requirements imposed on agricultural practices, allowing existing (small-scale) farms to continue their businesses. Moreover, the payments were also perceived by multiple actors within and surrounding the farming systems as payments to buffer for financial losses due to market-related shocks. A decline in direct payments could thus be regarded as a threat to farmers' ability to deal with financial shocks. However, for many farmers the received income support exceeds the increasing costs, whilst the payments are also paid in times without shocks. In this view, income support then exceeds the minimum level required for enabling robustness, possibly leading to dependence on income support that can undermine longer-term resilience.

Respondents of all five farming system cases, however, also experienced different negative effects of the CAP's income support measures on the robustness of their farming system. For example, the post-2013 CAP reform introduced decoupled direct payments linked to the area farmed and convergence mechanisms that adjusted these payments towards a uniform rate per hectare within each Member State or region, instead of being calculated on the basis of historic entitlements. Whereas the introduction of these direct payments was intended to decouple payments from the quantity produced, actors in the Spanish case indicated that the decoupled payments made it difficult to maintain the extensive sheep farming system. In addition, Spain opted for applying the direct payments and its internal convergence at the level of regions based on land use, creating large regional

differences in the value of the entitlements to the detriment of extensive grazing systems. Spanish extensive sheep farmers have limited access to land that is eligible for CAP payments, making it hard for them to maintain a profitable farming business. As one Spanish farmer said:

> *"Of 800 hectares of rented land, only 300 hectares are eligible for CAP payments … So, people [farmers] who usually pasture in the mountains, do not have eligible pastures to receive CAP payments. So, they have to search for land in other areas."*

In addition, the CAP's decoupled direct payments seriously affect farmers' access to land in almost all farming systems. For instance, Spanish respondents mentioned that they experienced high competition for land in their farming system as land eligible for CAP payments was scarce. The direct payments therefore contributed to increasing land prices, specifically of CAP-eligible land. The Spanish farmers experienced this as a constraint to their long-term planning, as they were uncertain if they were still able to obtain or lease CAP-eligible land to remain profitable for subsequent years. Similarly, Dutch respondents identified increasing land prices as a major challenge to their farming system. They felt that the decoupled direct payments indirectly increased the already relatively high prices of agricultural land in the Netherlands, and the payments did not outweigh the land price increase. The increasing land prices affect the functioning of the Dutch farming system by constraining farmers to upscale their businesses and, in the long run, to realise farm succession. Likewise, Polish respondents argued that farmers' access to land was constrained as they experienced that the direct payments incentivised non-active farmers to continue to own agricultural land just to receive payments. Whereas the CAP's decoupled direct payments were felt to have less impact on land prices than the tax regimes in the UK farming system, UK respondents felt that the payments constrained access to land. However, the respondents largely spoke in terms of turnover of land and people, actually

showing the decoupled direct payments' contribution to protecting the status quo. Low availability and high competition for land were also experienced by several Flemish respondents. However, they perceived Flemish land tenure legislations to have a stronger impact on access to land than direct payments.

Lastly, Dutch, and Polish respondents indicated that more extreme weather events caused by climate change were a prominent challenge for their farming systems. The availability of insurance schemes that cover weather-related risks were, therefore, mainly discussed in the Dutch and Polish cases. Different weather insurance schemes are available for Dutch and Polish farmers to protect against financial losses incurred by adverse weather events. In the Netherlands, private hail insurance is marketed, and public-private weather insurances are offered whereby the Dutch government provides a subsidy rate on the insurance premium, using payments under the RDP. In Poland, a nationally designed and funded insurance scheme is preferred by the government and Polish farmers are obligated to insure at least 50 per cent of their agricultural land to receive direct payments (Meuwissen et al., 2018; Popp & Nowack, 2020). Whereas the insurance systems differ between the Netherlands and Poland, the insurances offered were largely not regarded as appropriate risk management tools as the effectiveness of the insurance schemes was called into question, especially by farmers. Taking out weather insurance was considered an individual choice as part of a farmer's strategy to deal with weather-induced risks. The general experience of the interviewed Dutch and Polish farmers was that the benefits of the insurance did not outweigh its costs, resulting in the decision not to subscribe to these insurances. In addition, Polish farmers generally seemed to be reluctant to enter insurance contracts for their crops (Wąs & Kobus, 2018). The interviews showed that unfavourable attitudes of the Polish farmers towards insurances were based on past experiences and contributed to the experience of weather insurance as an ineffective risk management tool. As stated by Polish farmers:

*"We do not insure for another time because insurance costs and insurers are dishonest. This is one more reason. I do not insure. I have not insured for many years."*

*"We've insured for 15 years, maybe more. We have not been insuring for some time, there once was hail and we did not receive compensation."*

Insurances can be regarded as relevant for contributing to farming systems' robustness against short-term shocks; however, it seems that creating an insurance-accepting environment requires extra effort (Popp & Nowack, 2020).

### *3.4.2 Adaptability*

The national implementations of the CAP's Pillar II in the form of RDPs and associated agri-environmental schemes were considered by many actors across the five case studies to have the potential to enable the adaptability of their respective farming system. Respondents referred to the possibility to apply for RDP project funding for innovations in production methods, collaborations or developments that increase the sustainability of the agricultural sector and rural areas. The agri-environmental schemes are seen to encourage a mid-term focus among farmers and other actors. Nevertheless, I found that the same respondents, especially in the Flemish, Dutch, Polish and UK cases, were also very critical of their RDP and agri-environmental programmes. A common reason provided by the respondents (both farmers and non-farmers) was that the RDPs' application procedures were perceived as complex and bureaucratic, and participation often required significant investments of capital and time. In addition, actors' past experiences with RDP funding applications, such as refusals, pay-out delays and the lack of flexibility to adjust the measures to fit local contexts, form barriers to apply for RDP funding. For example, in the Flemish case, respondents perceived the RDP to have the capacity to support adaptability within the dairy farming system. However, the perceived administrative complexity related to the

application and allocation discouraged actors to apply. Similarly, the Polish RDP were regarded as an important source of funding, but the application and allocation were perceived as bureaucratic, and the required multi-year business plan was regarded as hindering flexibility to deal with changing circumstances within the fruit and vegetable farming system. For similar reasons, respondents in the British and Dutch case studies had reservations about applying for RDP funding and questioned the functioning of the RDP. As one Dutch respondent said:

> *"In principle, the measures [RDP programmes] are not suitable for innovation. Because they take way too long. It goes too slow. This means that someone who has a good idea has to wait for two years before he or she can get the money."*

So, the adaptability-enabling potential of RDPs is constrained by bureaucratic procedures, which were often perceived as unnecessary. Whereas bureaucracy was not regarded as negative if it contributes to the functionality of the policy, the effective delivery of policies, such as the RDPs, can be obstructed if actors perceive the rules, regulations, or administrative procedures as overly burdensome and redundant.

The CAP's direct payments were considered to have constraining effects on the adaptability of farming systems. In almost all farming system cases, except for the Spanish farming system, respondents witnessed that offering income support also has the effect of stifling competition and change. Especially in the Dutch and English cases, respondents argued that the guaranteed source of income provided through the CAP's direct payments allowed otherwise less profitable or dysfunctional farming business models to continue. The direct payments were therefore seen as discouraging adaptation of inferior business models or the search for innovative or alternative business opportunities. These findings resonate with the dominant orientation on competition in the Dutch and English cases. Similarly, whereas direct payments were regarded less important in the

Polish case, respondents did indicate that the direct payments hindered adaptability because the payments constrained competition. In the Flemish case, several respondents had similar opinions about how the direct payments might constrain adaptability. However, some respondents argued that the direct payments provided extra financial means for investing in adapting farming practices.

Respondents in the Dutch, Spanish and English cases recommended changes in the system of direct payments to reduce their adaptability-constraining effects. For instance, many respondents from the Dutch and English farming systems suggested that they would favour a shift in the allocation of direct payments from area-based to performance-based. This would imply that farmers and landowners would receive payments for maintaining and providing public goods and services or for adopting farming practices that address environmental issues. Interestingly, such a shift in payments has been proposed to become part of the British agricultural policy after Brexit. The Eco-schemes proposed by the European Commission for the CAP post-2020 could play a similar role. Several Spanish respondents perceived advantages in coupling the direct payments to livestock instead of land, with conditionalities based on demographic, quality, or production criteria. Such coupled payments would support sheep farmers to continue their extensive farming practices and offer incentives for providing ecosystem services.

Finally, I researched the specific aspect of social learning within the farming systems and especially whether policies support this type of social learning. I found that actors across all farming systems agreed that actively engaging in social learning processes was essential to learn about policies and their implications, but also about, e.g., new innovative farming techniques, agri-environmental practices, or business strategies. The respondents commonly mentioned several ways, both public and privately supported, for attaining and exchanging knowledge, for

instance, attending information and training sessions, being an active member of a farmers' association or farming cooperative, participating in networking events, and making use of advisory services. Whereas actors across farming systems generally believed that access to information or advisory services was widely available, several respondents in the Flemish, Polish and English case favoured more comprehensive and independent advisory services with knowledge of the farming system's context.

However, most social learning seems to take place within the respondents' professional network. For instance, farmers mentioned conversations with trusted peers, such as (financial) advisers, suppliers, or employees of farmers' associations to gain and exchange information. Also, non-farming actors (e.g., policymakers, advisers, suppliers) acknowledged the importance of their professional network. Governmental actors said they interacted internally or across governmental levels, while advisers and suppliers brought up their access to research departments. Less commonly mentioned by farmers were interactions with civil servants, scientists, or other farmers. Interestingly, the non-farming actors regularly mentioned that they learn about policy effects in practice, for instance, by participating in the previously mentioned social learning events or as 'sparring partner' to farmers. These findings suggest that interactions to share information and experiences about policies occur largely in networks within or closely related to the farming systems. These closed networks should be regarded as a context condition for policy interventions which might complicate the introduction of new actors, knowledge, or perspectives from outside the farming system, potentially constraining in-depth learning within the farming system.

### *3.4.3 Transformability*

A recurrent experience among most of the respondents in all farming systems was that the CAP and other policies hardly allowed them to focus on the long term. A prominent reason provided by actors within and surrounding the Flemish, Dutch,

Polish and UK farming systems was that policies were experienced as changing too often, thereby constraining a certain stability and predictability that was seen as necessary to engage in more long-term planning and investments. As stated by a UK farmer:

> *"There are so many things happening, particularly at the moment, but all the time really, and so many bits of legislation that impact the farmer, that I wouldn't even come close to having a complete view. But there are all kinds of different directives coming in … So, I would say I would be some way off having a good grasp of that."*

Several respondents indicated that the inability to develop a longer-term focus within the farming system had negative consequences. For instance, in the Flemish case, actors indicated that the unpredictable policy environment discouraged potential new entrants to start a farming business. Dutch farmers explained, e.g., that policies that were experienced as constantly changing limited their ability to deal with more long-term challenges, such as soil depletion. While transformability can be enabled by small but immediate in-depth changes, many farming system actors seemed to experience these changes as constraining a long-term focus.

The CAP was perceived as a policy that predominately supports robustness. Therefore, policy initiatives to dismantle incentives to maintain the status quo were hardly identified. However, respondents in all five cases perceived several policy instruments to have detrimental effects on their farming systems' status quo. An often-mentioned example – mainly by farmers – were the changing regulations relating to plant protection products. Although reducing the use of plant protection products was considered as a necessary move away from the status quo by some (e.g., environmental NGOs), the arable and fruit and vegetable farmers in the case studies experienced these policy changes largely as hindering their ability to deal with pests and plant diseases. Plant protection products were

perceived as being withdrawn too quickly without providing alternatives, which raised concerns whether farmers could maintain and increase the quality and quantity of their crops. Similarly, legislation on manure and fertilisers are introduced to reduce nitrate pollution and improve surface and ground water quality, forcing changes to current farming practices to improve the environment in the long term. However, several Dutch respondents argued that legislation on fertiliser use was constraining farmers' ability to deal with long-term loss of soil quality, while intensive farming practices continue to put pressure on the region's soils. Furthermore, while dairy farmers in the Flemish case perceived the legislation as necessary for improving environmental quality and reducing misconduct, they felt forced to implement income-reducing measures (e.g., fertiliser-free buffer strips) or invest in new infrastructure (e.g., manure storage facilities). These findings suggest that the manure and fertiliser regulations often conflict with the farmers' daily practices and their idea of 'good farming'. While the regulations incentivised limited change, they were not successful in winning farmers' support for broader change. Overall, changes to the status quo were hardly experienced as enabling transformability. Farming system actors rather perceived them as demanding, constraining or threatening their regular farming activities and business profitability. However, it is precisely these associations with change – being demanding and challenging regular routines – that would indicate that change was transformative.

## 3.5 Reflections and conclusion

Whilst the interest in the potential of public policies for improving the resilience of farming and food systems is growing among academics and policymakers, systematic understanding of how public policies affect the resilience of these systems is still limited. This chapter therefore addressed the question of whether and how farming system actors in five case studies experience the effects of the

CAP and relevant adjacent policies on the resilience of their respective farming systems.

First, I found that actors generally perceived the CAP and adjacent policies as affecting the resilience capacities of their respective farming system in uneven ways. Broadly speaking, the actors experienced these policies as mostly supportive for the robustness of their farming systems. They expected the CAP's area-based direct payments to provide income support as a financial buffer against shocks. However, the actors also felt that the CAP did not effectively support the adaptability of their farming systems. Many measures in the RDPs, while recognised as aiming to enable adaptability, were seen as ineffective or even constraining due to bureaucracy. The transformability of farming systems was seen as constrained by the CAP since a long-term focus was not supported. At the same time, interventions that require change (e.g., environmental regulations) were perceived as threatening resilience. These results confirm the previous top-down research that found that the CAP's support for the three resilience capacities is largely skewed towards robustness (Feindt et al., 2018). To enable the resilience of Europe's farming systems in a more comprehensive way, the CAP and its national implementations would need to rebalance the budget and ensure that the overall policy design does not discourage or hinder adaptability and transformability. In contrast, the EC's proposals for the CAP post-2020 continue their focus on income transfer, which enhances robustness for unprofitable farming systems but discourages adaptation or transformation.

Second, the comparison revealed that the perceived resilience effects of public policies depend systematically on specific farming system characteristics. The findings make clear that the CAP's support for robustness was mostly attributed to the area-based direct payments which were seen as providing buffer resources. Consequently, robustness is strongly supported for land-intensive farming systems (arable farming and grasslands), but not for those who require relatively

little land (e.g., poultry production, horticulture, or perennials). Moreover, the robustness-enhancing effect is mediated through access to land and land ownership, as the Spanish case with its declining extensive sheep grazing system demonstrates. This case also shows that decoupled direct payments do not support the continuation of extensive grazing systems where cheaper methods are available to meet the eligibility requirements. In a broader perspective, the long-term resilience of arable farming and horticultural systems would be better served if the CAP and adjacent policies enabled adaptation to climate change and other environmental challenges (**Table 3.2**). Whereas the RDPs could serve this purpose, EU legislators and Member States need to identify and reduce bottlenecks and barriers within the RDPs that stand in the way of effective implementation. Altogether, to determine the effectiveness as well as the desirability of certain policy instruments, it is essential to consider how the policy mechanisms and their effects are influenced by each farming system and its enabling or constraining environment. Enabling the EU's farming systems to become more resilient would therefore require a mix of instruments that can be tailored to fit their divergent resilience needs. In this respect, the Member States should use the proposed National Strategic Plans to implement the CAP with flexible and context-tailored policy designs that strengthen all resilience capacities of their farming systems. For instance, Member States could design their Eco-schemes as a performance-based payment scheme that incentivises and remunerates farmers for implementing (sets of) agri-environmental or climate measures. If national governments define clear guidelines that reflect ambitious national and EU objectives regarding, e.g., climate change, natural resource quality or protection of biodiversity, suitable Eco-scheme measures can be collaboratively identified by regional public and private actors that fit both with the regional context and the overarching objectives and enhance farming systems' long-term resilience.

Finally, the qualitative nature of the bottom-up approach requires that I critically reflect on how actors seem to understand resilience and appropriate the concept. For instance, I found that farming system actors seemed to prefer a robustness-oriented approach for enabling resilience, which partly resonates with established narratives that often justify the CAP's income support and the special policy treatment for agriculture as an exceptional sector (Daugbjerg & Feindt 2017). In contrast, policy instruments that steer towards adjustments or even change are often met with scepticism about their implementation or resilience-enabling effects (e.g., the RDPs or environmental regulations). Such bias towards robustness possibly exposes actors' limited engagement with the idea of adaptability and transformability as being integral to resilience and might very well explain which policy effects are perceived as resilience-enabling and which not. However, further research would be needed to analyse how this bias might vary across different farming methods within the systems (e.g., conventional versus organic farming, agroforestry). Actors' reluctance to embrace adaptation or transformation might further be understood by reflecting on the presence of lock-in mechanisms within farming systems that reinforce established practices. Moreover, I found that actors within the farming system cases had relatively closed networks, mostly consisting of other farming system actors, which might partly explain the relatively similar policy experiences and views on the resilience concept. Clearly, whereas distinguishing between robustness, adaptability and transformability allowed us to systematically analyse actors' experiences with policy effects, it should not be taken for granted that actors understand resilience in a similar way. Actors might only partially adopt or mix elements of the resilience capacities to understand the resilience of farming systems, or they might assume that resilience capacities are generally closely bound together (Spiegel et al., 2021). Hence, I see the need for further research that explores the resilience-related perspectives owned by actors. Such a follow-up research could entail a frame analysis that focuses on identifying and studying the processes in and through which specific actors perceive and give meaning to resilience and

which corresponding policies are preferred for enabling resilience and for what reasons.

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# Chapter 4

# Reconstructing the framing of resilience in the European Union's Common Agricultural Policy post-2020 reform

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## Abstract

The concept of resilience has been increasingly adopted on the EU's policy agenda as a principle for agri-food policymaking. However, resilience is an ambiguous concept, allowing for different understandings and uses in the context of agri-food policymaking. This study analyses whether and how resilience is framed and contributes to framing in the CAP post-2020 reform process by policymakers and stakeholders. Combining deductive and inductive coding, 123 policy documents of EU institutions and stakeholders related to the CAP post-2020 reform debate and the associated Farm-to-Fork Strategy were analysed. Five distinct resilience frames were identified: (1) Income resilience frame; (2) Farmers' supply chain position resilience frame; (3) Climate change impact resilience frame; (4) Disease resilience frame; and (5) Ecological resilience frame. Whereas the resilience concept has been deployed by various actors, they differ in preferred policy actions towards greater resilience.

# 4. Reconstructing the framing of resilience in the European Union's Common Agricultural Policy post-2020 reform

## 4.1 Introduction

Against the background of an increasing sense of crisis in the European Union (EU), the resilience concept has grown to prominence on the EU's policy agenda and been adopted as a guiding principle for the reform of the EU's Common Agricultural Policy (CAP) after 2020 (European Commission, 2018A, 2018B). Initially conceptualised by the ecologist Holling (1973), resilience refers to the ability of ecological systems to respond to perturbations while maintaining essential functions (Folke et al., 2010). Since about 2015, the concept has been adopted in academic and political discourse on EU agriculture and its ability to deal with current and future shocks and stresses. Resilience was emphasised in the European Commission's communications on the CAP post-2020 and the Farm-to-Fork Strategy where it refers to the ability of the farm sector to deal with, inter alia, volatile markets, geo-political tensions, generational renewal, climate change impacts, and biodiversity loss (European Commission, 2018B; 2020). The resilience concept bridges various ideas on how the farm sector should prepare for and respond to a broad range of potentially accumulating shocks and stresses, and how it should be supported through public policies.

While there is broad agreement that improving resilience is essential for the future of farming and farming systems in Europe, contextual variation, various values and priorities, and different subjective perceptions lead to multiple interpretations of how policies should enhance resilience (Béné et al., 2019; Jones 2019; Wilson & Wilson, 2019; Lindow et al., 2020). For instance, studies on disaster risk management and climate change adaptation (e.g., McEvoy et al., 2013; Aldunce et al., 2014; Restemeyer et al., 2018) have found that different frames of system resilience among policy practitioners lead to divergent policy

interventions regarding risks and disasters. Similarly, **Chapters 3** and **5** demonstrated that preferred policy interventions for enabling farming systems' resilience differed, sometimes even contradicted, across actor groups and farming system contexts. Resilience should thus be considered as an ambiguous concept, raising questions about how policymakers and practitioners understand and perceive resilience and how this affects the design and implementation of resilience-enhancing policies (e.g., Feindt & Oels, 2005; Helfgott, 2018; Hansen et al., 2020).

The process by which actors perceive, give meaning to, and communicate about complex societal problems and preferred policy solutions is understood as framing (Van Hulst & Yanow, 2016). Framing takes place through narratives, i.e., cognitive shortcuts that convey "storified" interpretations of reality (Schön & Rein, 1995; Van Hulst & Yanow, 2016). During the CAP post-2020 reform process, numerous actors raised the need for resilience, reflecting various, sometimes conflicting, causal narratives regarding the issues challenging resilience and their causes, the purposes, or reasons why resilience is needed, and the policy solutions to enhance resilience. Previous research has shown that ambiguity allows a concept to be framed in ways that fit different actors' interests and that ambiguity is often used strategically to influence policy debates (e.g., Candel et al., 2014; Metze, 2014). This is clearly relevant for the use of the resilience concept, which has been framed to endorse policies that sustain the status quo as well as policies that promote alternative practices or transformative change (Cretney, 2014; DeVerteuil & Golobchikov, 2016). Distinguishing between different resilience frames is therefore necessary to understand the competing views on resilience in the CAP post-2020 reform debate and their impact on the future resilience of farming and farming systems.

Against this background, this study aims to analyse how the concept of resilience is framed in the CAP post-2020 reform process and which policy actors and

stakeholders deploy different resilience frames. I combine a frame package approach (e.g., Van Gorp & Van der Goot, 2012) with the Resilience Assessment Framework of Meuwissen et al., (2019) to analyse resilience frames in policy documents of EU institutions and stakeholders during the legislative process towards the CAP post-2020. This study contributes to the resilience debate within farming and agri-food system research by illuminating competing definitions of resilience and their implications for resilience-enhancing policy design (e.g., Darnhofer, 2021A). By analysing how resilience is framed I can compare how specific actors and actor groups comprehend resilience, how its meaning is communicated, which policy decisions for enabling resilience are suggested, and for what reasons. This frame analysis also helps to find room for consensus and controversies that are hard to overcome (cf. Schön & Rein, 1995). Moreover, the analysis contributes to the study of framing and the role of ambiguous concepts in policy processes by reflecting on if and how the ambiguity of resilience is suitable for bridging divergent frames and assembling broad actor coalitions for resilience-enhancing policies for EU farming systems (cf. Yanow, 1996; Anholt, 2020; Hannah & Baekkeskov, 2020).

The remaining part of this chapter proceeds as follows: I elaborate the theoretical framework that guided the analysis by discussing the scientific literature on policy framing, in particular in relation to the resilience concept (**Section 4.2**). This is followed by an explanation of the methods and data for frame analysis (**Section 4.3**). Then five resilience frames are presented as the result of the analysis (**Section 4.4**). This chapter ends with a broader reflection on the insights and implications emerging from the analysis (**Sections 4.5** and **4.6**).

## 4.2 Theoretical framework

### *4.2.1 Resilience and farming systems*

The resilience concept is increasingly gaining attention within academic and practitioner circles across disciplinary fields and has therefore grown into a multidisciplinary concept with different conceptualisations. For instance, in the fields of risk and disaster management, resilience is mainly understood as the capacity to resist shocks or disturbances and to immediately recover to a perceived normal in the short term (Barr & Devine-Wright, 2012; Scott, 2013). Other fields, such as socio-ecological systems research, emphasise that resilience also entails a system's capacity to adapt or transform in response to shocks or stresses to continue functioning (Walker et al., 2004; Davidson, 2010; Folke et al., 2010). Despite these differences in roots and initial focus, the notion that systems can cope with changing environments and uncertainty by enhancing its resilience have made it an appealing concept for policy researchers and practitioners (Davoudi et al., 2012, Feindt et al., 2020).

Likewise, academics and practitioners concerned with farming and agri-food systems have shown growing interests in resilience and how to cope with increasing or accumulating economic, societal, and ecological shocks and stresses. Meuwissen et al., (2019) therefore developed a framework for identifying and assessing the resilience of farming systems in relation to their specific contexts and challenges. The framework distinguishes five questions to specify the system's resilience. The first question, 'resilience of what?', provides insights into the identity, borders, elements, and characteristics of the system. The second question, 'resilience to what?', aims to identify the challenges and threats to the system's resilience. By asking the third question, 'resilience for what purpose?', the desired functions of the system (i.e., the provision of which private and public goods) are identified. The fourth question, 'what resilience capacities?' aims to assess these along three distinct dimensions: (1) robustness is the capacity of a

system to resist external perturbations and to maintain previous levels of functionality, without major changes to internal elements and processes (Urruty et al., 2016); (2) adaptability is the capacity of a system to adjust internal elements and processes in response to changing external circumstances. The system can continue to develop along the original trajectory, while maintaining important functionalities (Folke et al., 2010); and (3) transformability is the capacity of a system to change fundamentally, particularly when structural changes in the ecological, economic, or social environment make the existing system untenable or unable to provide essential functionalities (Walker et al., 2004). The fifth question, 'what enhances resilience?', provides insights into attributes or elements that might strengthen a system's resilience.

In addition, I ask the question 'resilience according to whom?' Different actors likely have different answers to the resilience questions, which reflect how resilience is understood. The answers to the sixth question help to reflect on the perspectives from which the previous resilience questions are answered. For example, different functions of a system might benefit different groups to varying degrees, affecting assessments which functions need to be preserved or require change, and what type of change is desirable for whom. In this study, I utilise the resilience questions for specifying the type of resilience that is being discussed in the policy documents.

### *4.2.2 Resilience and ambiguity*

Resilience has both contextual and subjective elements that allow it to be interpreted in different ways (Béné et al., 2019; Jones 2019; Wilson & Wilson, 2019; Lindow et al., 2020). For instance, previous research has shown that the perceived resilience and resilience (policy) responses depend on particular farm and farming systems' characteristics, local context, and specific challenges (Nicholas-Davies et al., 2021; **Chapter 3**). Moreover, policymakers across European countries favour different policy interventions for enhancing farming

systems' resilience because of differences between the systems' context and the challenges it faces (see also **Chapter 5**). For example, whereas coupled income support was considered useful for stabilising an extensive grazing system in Spain, coupled support was e.g., regarded as distorting markets in highly intensive farming systems with high competition on land markets. In other words, answers to the questions of e.g., resilience of what, to what or for what purpose can largely differ across actors and contexts. Consequently, the general notion of resilience is surrounded by a level of ambiguity (Brand & Jax, 2007; Davidson, 2010; Reghezza-Zitt et al., 2012; Olsson et al., 2015).

Critics of the resilience concept claim that its ambiguity allows actors to attach almost any meaning to it to justify any specific objective or to suit any agenda (Manyena, 2006; Weichselgartner & Kelman, 2014; Anholt & Sinatti, 2020). Previous research has already shown that ambiguous concepts are often used strategically to influence policy debates. For instance, Cretney (2014) and DeVerteuil & Golubchikov (2016) found that the resilience concept was used by higher-level governments to perpetuate and sustain dominant (neoliberal) values and business-as-usual practices. However, the resilience concept is also used by community and activist groups for developing grassroot approaches that emphasise transformative change and alternative practices to address local-to-global social and environmental issues (Cretney, 2014). Moreover, Hannah & Baekkeskov (2020) show that ambiguous or polysemic ideas, such as the 'One Health' concept[1], can be useful for attracting different interests and mobilising broad attention to complex problems. Likewise, Béland & Cox (2016) argue that skilled policy entrepreneurs can use the ambiguity of polysemic ideas to connect potentially divisive policy goals and instruments, allowing them to gather broader stakeholder support. While ambiguous ideas can thus be helpful in bringing together actors with different interests, their drawback is that a disproportionate

[1] The assumption that human, animal, and environmental health are interdependent against the background of the threat of antimicrobial resistance.

focus on inclusiveness can potentially hinder the adoption and implementation of effective responses (Hannah & Baekkeskov, 2020).

### *4.2.3 Framing*

Within the large body of framing literature, frames are generally understood as a lens or perspective that determines how actors perceive and define a situation or problem and how they communicate and act on it (Rein & Schön, 1993; Schön & Rein, 1995). Despite the common understanding that frames are the result of processes through which actors interpret a problem, the wide application of the concept has led to multiple approaches to frame and framing analysis. My understanding of framing builds on the interactional and political approaches to framing (Dewulf et al., 2009; Van Hulst & Yanow, 2016), which consider framing as a communicative and interactional process in a political context rather than an individual cognitive process of information processing. My focus is not so much on the patterns of frame interaction over time (Dewulf & Bouwen, 2012), but rather on the framings publicly communicated by actors as part of a politicised policy-making process, i.e., the CAP reform process. While the interactional approach in principle assumes that framing is implicit or tacit, several scholars have argued that interactive framing of policies involves contesting policies' meanings and, therefore, strategic use of frames (e.g., Metze, 2014; Dodge, 2017). Due to the CAP's politicised reform process, I assume that frames are used strategically by actors in this context.

From a political perspective, framing is understood as the process by which actors perceive, give meaning to, and communicate about complex and ambiguous societal problems and how this translates into preferred courses of policy actions (Van Hulst & Yanow, 2016). How actors frame a situation can differ widely, reflecting various causal narratives, i.e., what is the problem, what is its causation, what is the moral evaluation, how it should be treated and resolved, and by whom (Entman, 1993; Lewicki et al., 2003). The concept of framing has been applied to

study a wide range of societal and policy phenomena, e.g., the construction of large infrastructural projects (Wolf & Van Dooren, 2017) or mega-farms for intensive livestock farming (Van Lieshout et al., 2011), food security and malnutrition (Candel et al., 2014; Namugumya et al., 2021), climate-smart agriculture (Faling, 2020), local migrant integration policies (Dekker, 2017) or climate change (Van Eck & Feindt, 2021). These framing studies demonstrate that policy problems, especially when many actors are involved, can be subject to various frames that can overlap or compete, based on the actors' understanding of the problem and their interests.

In certain cases, actors use a shared concept or idea to frame a policy problem despite contradictory understandings of the problem or different policy positions. These types of frames are called consensus frames (Gamson, 1995). These specific frames are based on an apparent agreement linked to a widely accepted concept that is ambiguous enough to attract multiple interests and values (e.g., 'sustainability' or 'inclusion'). While superficial consensus over the lead concept might suggest agreement, incompatible frames concerning the causal narrative and the solution prescriptions can remain hidden (Gamson, 1995; Mooney & Hunt, 2009). Candel et al., (2014), for example, analysed that while the concept of 'food security' found wide resonance among a broad range of stakeholders in the CAP post-2013 reform debate, stakeholders framed food security in overlapping and conflicting ways in line with their different policy positions and interests. Moreover, the European Commission deployed multiple food security frames simultaneously, using the concept of food security in different contexts to mobilise public support and consensus for an alleged common goal of the reformed CAP.

Accordingly, frames can be used strategically or politically by actors for influencing policy-making processes. Actors can portray a problem or select and highlight aspects of the problem in accordance with their own or their group's interests to persuade others (Entman, 1993; Benford & Snow, 2000; Metze, 2014;

Van Hulst & Yanow 2016). Framing involves actors continuously (re)using specific causal narratives and discursive elements (e.g., metaphors) to promote preferred policy actions and to contest other frames (Benford & Snow, 2000; Van Gorp, 2007; Van Hulst & Yanow, 2016). For instance, Metze (2014) demonstrated that in the case of hydraulic shale gas fracking in the Netherlands actors engaged in framing as a strategy to negotiate the economic benefits and environmental impact of shale gas fracking (i.e., causal narrative), which led to a change in policy. Thus, analysing the causal narratives and discursive elements used by actors in relation to resilience is necessary to understand how actors frame resilience and which CAP design they promote for enhancing resilience.

## 4.3 Research methods

A research protocol (see **Chapter 4 – Appendix I**) was created to guide the methodological steps of the frame analysis. I now present the main steps of the protocol regarding data collection and analysis.

### *4.3.1 Data collection*

For the frame analysis, relevant policy documents of EU institutions and stakeholders that functioned as input to the CAP post-2020 reform process were identified. The analysed policy documents (n=123) consist of European Commission's Communications (e.g., preparatory documents used to prepare EU legislation and Commission recommendations for individual Member States); European Parliament and The Council of the European Union's documents (e.g. regulations, resolutions, documents of the Committee of Agriculture and Rural Development (AGRI) and the Committee on the Environment, Public Health and Food Safety (ENVI)[2]); stakeholder input into the CAP's public consultation round

[2] The European Parliament discusses legislative proposals from the Commission in the plenary and in specialised standing committees, usually adopting many requests for amendments. The standing committees can also instruct legislative proposals via e.g., the adoption of reports on Commission initiatives and own-initiative reports

(stakeholder position papers and summary reports of "The CAP: Have your say" stakeholders conference); and Member States' position papers and preliminary National Strategic Plans. In addition, I included policy documents related to the Farm-to-Fork Strategy, because I consider them as part of the CAP reform process. Whereas the European Commission under President Juncker had introduced the legislative proposals of the CAP post-2020 in June 2018, the new European Commission under President von der Leyen published the Farm-to-Fork Strategy (20 May 2020) to align the CAP with its renewed ambitions (European Commission, 2021C).

I followed a set of selection criteria for the above-mentioned policy document types to ensure that they addressed the CAP post-2020 and elements of resilience. First, I only selected policy documents that covered the period from mid-2016 till the beginning of 2021, which corresponds to the CAP post-2020 reform round apart from the final stages of negotiations when bargaining considerations dominate over conceptual framing. Then, for collecting policy documents of the EU institutions, I used different databases and selection criteria per document type (see **Chapter 4 -Appendix I, Table 1**). Additionally, a data repair strategy was developed to include extra stakeholder position papers in the data set, consisting of two steps: (1) a general Google search based on a detailed search query; and (2) a specific search for position papers of major Eurogroups that were involved in past CAP reform rounds (Klavert & Keijzer, 2012). More details about the document selection and the data repair strategy can be found in **Chapter 4 - Appendix I** and **Chapter 4 - Appendix II**. A list of selected and analysed documents is presented in **Chapter 4 – Appendix III.**

### *4.3.2 Data analysis*

For analysing the content of the documents, I conducted a frame package analysis (Van Gorp, 2007; Van Gorp, 2009; Van Gorp & Van der Goot, 2012) using the qualitative content analysis software ATLAS.ti. Frame packages are a heuristic

approach to systematically disentangle causal narratives of different types of frames about a specific (policy) problem. Frame packages consist of a set of logically organised devices that together constitute a certain frame (Van Gorp, 2007). The devices can be subdivided into framing devices and reasoning devices. Framing devices consist of linguistic elements that serve as indicators for a specific frame. I specifically coded for three types of linguistic elements: key words, verbal devices, and metaphors (Van Gorp & Van der Goot, 2012). Key words are words or concepts that are used frequently to particularise the central notion of the frame (e.g., 'volatility', 'extreme weather' and 'risk(s)'). Verbal devices include depictions to visualise the issue such as descriptions, examples, images and statistics, and expressions or catchphrases to make subjects relatable. Metaphors are implicit comparisons that link familiar and meaningful ideas to more abstract concepts to make them intelligible and strengthen policy arguments (e.g., 'a fair income support to help farmers to make a living') (Van Gorp. 2009; Van Hulst & Yanow, 2016; Namugumya et al., 2021).

Reasoning devices are explicit or implicit statements about a problem's definition, causal attribution, moral evaluation, and recommended solutions, forming a frame's causal narrative of the problem (Van Gorp, 2007; Van Gorp & Van der Goot, 2012). Regarding the reasoning devices, I was particularly interested in how actors address the resilience questions (Meuwissen et al., 2019) in relation to the CAP and its instruments, forming the causal narrative underlying possible resilience frames. I therefore coded for content related to the following questions: 'what is resilience?' (includes how actors describe or define resilience); 'resilience of what?' (refers to the subject, who or what needs to be resilient); 'resilience to what?' (problem definition and causal attribution, referring to the challenges that are presented); 'resilience for what purpose?' (to identify the desired functions); 'how to (not) enhance resilience?' (recommended or preferred policy solutions or non-solutions, e.g., when a policy instrument is regarded as not working); 'resilience for what reason(s)?' (refers to the moral evaluation, to identify values

that underpin the recommendations or specific frame); and 'resilience according to whom?' (refers to who is making the statement(s)).

A combination of deductive and inductive elements was used in the frame analysis, starting with a pre-set codebook with a priori codes relating to the resilience questions which was complimented with inductive codes that emerged from the data (**Chapter 4 – Appendix I**). The coding took place in three rounds, including a trial coding round to test the code book. During all coding rounds, possible ambiguities, or in case of doubt regarding the correct use of certain codes, quotations, and coding decisions, were discussed within the research team to ensure a common interpretation. After the coding, I used ATLAS.ti's data analysis tools to iteratively compare and recognise interlinkages between coded text fragments related to the resilience questions, and between codes and actors, and made connections based on patterns in themes. For example, text fragments that discuss that farmers' resilience (resilience of what?) is challenged by volatile income because of unstable prices and severe market fluctuations (resilience to what?) and requires farmers' income support and risk management tools to enhance resilience (how to enhance resilience?), were identified across multiple texts, compared, and captured into a frame matrix (**Chapter 4 – Appendix I**). I completed the frame matrices by identifying which (group of) actors deployed the different resilience frames.

## 4.4 Findings

I identified five different resilience frames in the CAP post-2020 reform process (2016-2021) (**Figure 4.1**). I first present overarching observations regarding the question 'What is resilience?' (**Section 4.4.1**), followed by a description of the resilience frames and the actors that deploy them based on the complete resilience frame matrices (**Chapter 4 – Appendix IV**).

### *4.4.1 Resilience conceptualisations*

Whereas the concept of resilience is mentioned extensively throughout the collected documents, only eight documents elaborate what is understood by resilience or present a definition of resilience, and often only summarily. The EU institutions and stakeholders proved to define resilience in different ways. A commonality between these definitions of resilience is that they emphasise the capacity to deal with unpredictability and unexpected, changing circumstances. At the same time, considerable differences between the given definitions for resilience are observable, which resonate with the distinction between resilience as robustness, adaptability, and transformability. On the one hand, a French national farmers' representative organisation defined resilience from a robustness perspective:

> *"Resilience is defined by the capacity of a farm to return to the growth trajectory after having suffered a shock, which implies anticipation through risk management and the development of farm robustness."* (FNSEA, 2017, p.2).

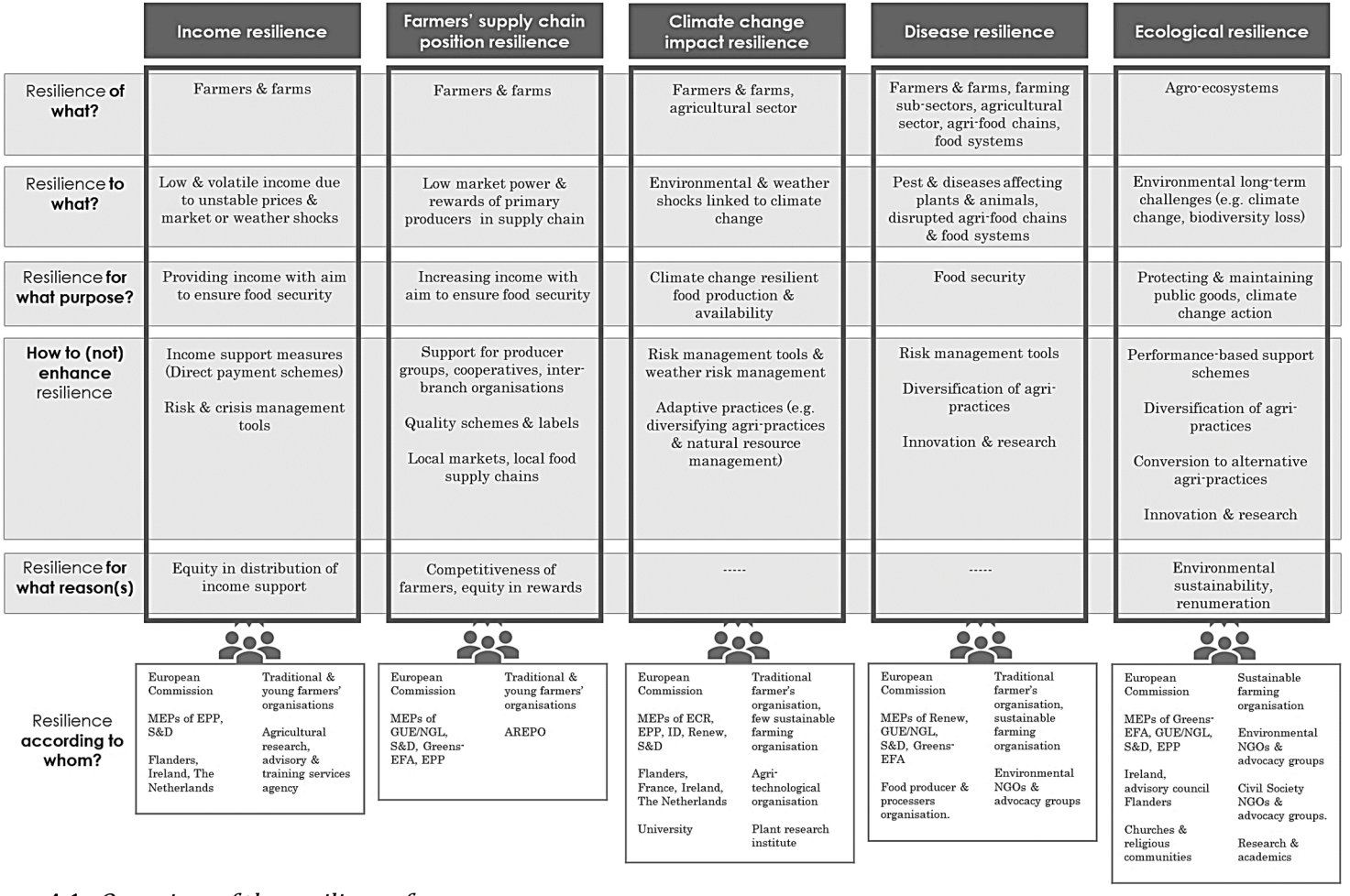


**Figure 4.1**: *Overview of the resilience frame*

On the other hand, scientists participating in the Commission's stakeholders conference emphasised the existence of multiple definitions of resilience: besides the ability of coping with shocks, resilience also includes the capacity to adapt or to be flexible because change is unpredictable and might require adjusting original responses. This definition of resilience resonates with the understanding that resilience is more than robustness but also requires the capacity to adapt or change in response to shocks and stresses. Similarly, the Environment and Nature Advice Council of the Flemish government (*Minaraad*) recognised that resilience also includes the capacity to adapt and even transform. These definitions focus on the ability to take advantage of changing circumstances to potentially strengthen the system.

Various actors criticised the EC for its ambiguous use of the resilience concept. For instance, the usage of the concept was rejected by a French employer in the beef sector, because it would imply leaving farmers to their own devices to withstand shocks until it was too late, instead of supporting farmers' livelihoods ("Consultation PAC 2020", 2017). Moreover, the German Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection (WBAE) advised to critically assess the Commission's focus on resilience *'as this focus may overly emphasise maintaining the status quo instead of adjusting to future challenges'* (WBAE, 2018, p.70), and two Members of the European Conservatives and Reformists Group in the European Parliament called on the EC to explain clearly what was meant by a *resilient* food system (Tertsch & Aguilar, 2021 – Amendments Farm-to-Fork Strategy).

#### *4.4.2 Income resilience frame*

The income resilience frame focuses on the below-average and volatile income of farmers which affects the viability of farming businesses, and the EU's responsibility to reduce instability in farmers' income levels through the CAP beyond 2020. The frame emphasises that the average farmers' income remains

low and lags behind other economic sectors at the national or EU level. Short-term external shocks threaten farmers' income, such as unstable prices and severe market fluctuations or (extreme) weather events. The frame accentuates that income resilience is essential to ensure viable and agricultural active farming businesses that contribute to food security. Proponents of the frame use statements, such as "fair income support to help farmers to make a living", or "making farmers' income less vulnerable". Moreover, the Commission continuously stated that supporting "viable farm income and resilience across the EU territory to enhance food security" was a core goal of the CAP.

Proponents of the income resilience frame propose income support measures and risk and crisis management tools to enhance farmers' resilience against low and volatile incomes. They stress that the CAP's direct payments, or more generally income support measures, was a valuable income source that contributed to farming businesses' viability. Actors, among them the Commission (2017, pp.15-16), mainly recommend that the direct payments required better targeting or redistribution. While better targeting of the direct payments appeals to other actors as well, e.g., agricultural interest groups or the European People's Party in the European Parliament, the recommendation was largely used to reaffirm the legitimacy of the direct payments. Better targeting of the direct payments could thus be regarded as a familiar adjustment for maintaining the existing direct payments schemes rather than altering the income support measures. While being proponent of income support measures, the proposal of the European Council of Young Farmers (CEJA) to link direct payments not only to land suggests a shift away from purely area-based direct payments.

Risk and crisis management tools are proposed to deal with or absorb market or weather-related shocks that lead to income loss. For example, the Commission recommended several Member States to deploy or strengthen risk management instruments and strategies (e.g., insurance or incentives for precautionary

savings) to mitigate income volatility due to unpredictable weather events. Also, agricultural interest groups, such as Copa-Cogeca, highlighted the importance of risk management for income resilience:

> *"Risk management tools are an important measure to improve farm resilience. These instruments include national schemes that help private income stabilisation tools to tackle income volatility, which is made possible through national agri-taxation measures."* (Copa-Cogeca, 2019, p.3).

#### *4.4.3 Farmers' supply chain position resilience frame*

The farmers' supply chain position resilience frame emphasises that farmers' resilience is being challenged by an imbalance in risks, costs and rewards between farmers and other stages of the food supply chain. Moreover, the position of farmers as primary producers is framed as restraining their bargaining position and capability to capture a larger share of added value in the food supply chain. Framing devices that characterise this frame are keywords such as primary producers, food supply chain (and farmers' position therein), added value, cooperatives, producer organisations, or statements, such as "rebalancing the distribution of power", or "capture a greater share of added value".

In this frame, improving farmers' resilience requires reducing the economic disadvantages that farmers experience due to their position in the supply chain. Proponents of the frame suggest enhancing horizontal collaboration among farmers or producers through cooperatives, producer organisations, and inter-branch organisations. Horizontal organisation among farmers has benefits for their resilience, for example:

> *"Farmers' cooperation is therefore critical to ensure viable farm income, to increase the ability of farms to be resilient and to absorb the impact of volatility, and market and food supply chain failures."* (Copa-Cogeca, 2019, p.2).

This frame promotes the availability of CAP Pillar I and II measures for supporting the organisation and functioning of producer or interbranch groups, particularly in sectors or among small farmers where such groups are not yet common. The Commission recommended that Member States use their National Strategic Plans to support horizontal collaboration, and the governments of Flanders, Ireland, and the Netherlands declared their intention to improve the position of farmers in the supply chain. The frame also emphasises the potential of recognised EU and national quality labels or schemes (e.g., EU geographical indications) to increase the added value of agricultural products, enabling farmers and producers to command higher prices. This suggestion was predominantly made by the Association of European Regions for Products of Origin (AREPO). Lastly, this frame contains the prescription to improve farmers' resilience through strengthening legislation against unfair trading practices (EPP, 2017), or via more general measures (inter alia available under the CAP) that stimulate and strengthen shorter supply chains and direct marketing:

> *"Short supply chains allow for farmers to sell their produce either directly to the consumer, or with a minimum of intermediaries; ultimately enabling them to retain a greater share of the final sales price and receive a higher farm income. This increase in revenue may also provide farmers the opportunity to reinvest that money back into their farm in order to expand or modernise it, leading to its greater resilience."* (Government of Ireland, 2019, p.45).

The farmers' supply chain resilience frame was deployed by largely the same institutional actors and stakeholders that also deploy the income resilience frame. However, there were notable differences among the party groups in the European Parliament. Besides the European People's Party, MEPs of the Left Group-

GUE/NGL, the Progressive Alliance of Socialists & Democrats, and the Group of Greens/European Free Alliance deployed elements of this frame.

#### *4.4.4 Climate change impact resilience frame*

The core premise of the climate change impact resilience frame is that the resilience of farmers and the agricultural sector are challenged by the impact of climate change, especially in the form of more extreme weather events and increasing natural hazards (e.g., heavy rainfall, droughts, floods, fires). Proponents of the frame use examples of short-term extreme weather events or other environmental shocks to make longer-term climate change impacts tangible. These shocks are expected to become more frequent and intensive which makes it more difficult for farmers and the agricultural sector to ensure food production and availability, but farmers' income is also threatened. The frame is characterised by the frequent use of the word 'climate-resilience' or derivatives thereof.

Recommendations for enhancing climate change impact resilience are mostly based on recovering from or adapting to rather than mitigating climate change. The climate impact resilience frame is therefore not deployed to advocate for large changes to the CAP. For instance, the Commission recommended in its communications, its Farm-to-Fork Strategy and in almost all recommendations for the National Strategic Plans to promote and deploy (already existing) risk management tools and strategies that support farmers to recover from e.g., weather-induced damage, and stressed the need for increasing participation in risk management schemes. Agricultural and rural interest groups, mainly traditional farmer's organisations, and a few sustainable farming organisations deployed the frame in a similar fashion.

Proponents of the frame also focused on climate adaption measures (e.g., adapting water and soil management practices, altering agricultural practices) to maintain

current farming activities despite weather-related disturbances or shocks, for example:

> *"Increasing resilience to climate change by stepping up climate adaptation measures to address the drought and hail risks and severe soil erosion, while preserving the status of water resources. Measures should include capacity building on climate change adaptation, support for practices enhancing soil health and setting up a system for monitoring soil quality as well as investments in more drought-resistant crops and the efficiency of irrigation infrastructure"* (European Commission, 2020, p.6 – Staff recommendations for Slovenia's National Strategic Plan).

MEPs of the European Conservatives and Reformist Group, the European People's Party, the Identity and Democracy Group, and the Renew Europe Group mainly focused on (technological) innovations (e.g., new plant breeding techniques and introducing new varieties) to increase farmers' resilience against climate change impact. MEPs on left side of the political spectrum regarded climate change impacts as a risk for resilience, but their recommendations related more to the ecological resilience frame (**Section 4.4.6**).

### *4.4.5 Disease resilience frame*

The disease resilience frame emphasises that the resilience of farmers, certain farming sub-sectors and the agricultural sector is challenged by the occurrence of diseases or pests. Diseases and pest outbreaks that affect the health of plants or animals are potential external shocks with negative effects on production levels and yields. Concerning framing devices, this frame is characterised by key words such as 'threat', 'diseases', 'pest resilience', and 'outbreak'. Proponents highlight that certain farming sub-sectors or production systems are more vulnerable to pests (arable monocultures) or diseases (animal husbandry). For example:

> *"For livestock, the sector is characterised by a high concentration of intensive farms. In combination with a reliance on export – the Netherlands has an environment that has the potential to facilitate the spread of pests and epidemic diseases that can affect production levels and yields."* (European Commission, 2020, p.9 – Staff Recommendations for the Netherlands' National Strategic Plan).

Since 2020, the disease resilience frame has included an additional focus because of the COVID-19 pandemic. The frame began to include the consequences of (communicable) disease outbreaks on production and value chains (i.e., agri-food chains) or food systems. The COVID-19 outbreak was used as an example to show that disease outbreaks could have enormous consequences, are not unlikely to occur, and to explain the importance of building resilience to possible future diseases and pandemics. Actors that deployed the frame underlined that the purpose of being resilient against diseases and their impacts was to guarantee food security, especially in case of pandemics. For instance:

> *"Recalls that improving food security and the resilience and sustainability of the food chain requires investments in farmers, cooperatives and SMEs and points out that the ongoing COVID-19 crisis has emphasised the strategic role that agriculture plays in avoiding a food crisis, by providing safe and high-quality food at affordable prices"* (EP's Committee AGRI, 2020, p.6).

In the European Parliament, MEPs from liberal or left parties, such as the Renew Europe Group, The Left Group-GUE/NGL, Progressive Alliance of Socialists & Democrats, and the Group of the Greens/European Free Alliance mainly argued that the impact of COVID-19 crisis had highlighted the need to ensure resilience and adapt agri-food chains. In contrast, the European Feed Manufacturers' Federation (FEFAC) framed the COVID-19 crisis as proof for the resilience of the

EU feed and supply sector because of the sector's ability to provide uninterrupted access to feed and food during a crisis.

The proposed policy recommendations for enhancing disease resilience focus mainly on risk management or adaptive measures rather than proposing systematic changes to deal with occasionally mentioned potential causes of disease outbreaks (e.g., mitigating climate change, ecosystem degradation or biodiversity loss). The frame was used by traditional farmers' organisations and the Commission to recommend strengthening risk management through insurance schemes or mutual funds and to promote their uptake. Mainly sustainable-farming organisations and environmental NGOs deployed the frame to advocate (support for the) diversification of cultivated species or using varieties and species that are more resilient to pests. More general suggestions were research and development of production methods with a focus on pest resilience. In this regard, diseases were largely presented as external shocks that lead to volatility and, therefore, require tools to deal with the associated risks.

#### *4.4.6 Ecological resilience frame*

The ecological resilience frame highlights the relationship between agriculture and its surrounding environment. Natural ecosystems that are modified for agricultural production, i.e., agro-ecosystems, require resilient ecological processes to guarantee the resilience of farmers, farms, and agricultural practices in the long run. However, the resilience of agro-ecosystems is challenged by the environmental impacts of agriculture, e.g., emissions that contribute to climate change, or agricultural and land management practices that degrade natural resources or cause the loss of habitats and species. Ecological resilience depends on the provision of public goods by farmers, such as protecting biodiversity and preserving habitats, and maintaining ecosystems and their services, as well as efforts for reducing agricultural impact on the environment and climate.

The ecological resilience frame was mainly used by sustainable-farming organisations, environmental and civil society NGOs, The Society for Conservation Biology and an association of churches. These stakeholders deployed the frame to present agro-ecosystems, or more generally the environment, as requiring protection or restoration for increasing resilience, and to propose alternatives to reduce the environmental impact of agricultural practices. For example, diversification, or even conversion, of agricultural practices by integrating principles of regenerative agriculture, agro-diversity, agro-ecology, or improving the sustainability of natural resource management were proposed:

> *"Whereas regenerative agriculture as an approach to food production and land management could mitigate those challenges, helping the transition towards a highly resilient agriculture based on the appropriate management of lands and soils"* (Rodríguez Palop[3], 2021, p. 154 – Amendment Farm-to-Fork Strategy).

Moreover, proponents argued in favour of a CAP that would adjust or even replace current instruments that incentivise intensive practices with instrument that help to sustain ecological resilience. This includes, for instance, proposed adjustments to the CAP's direct payment scheme or alternative income support schemes that compensate farmers and other actors for their efforts for maintaining public goods, because the market barely remunerates such efforts. Such income support would reward farmers for their performance and incentivise them to implement practices beneficial for the environment or climate, thus, contributing to ecological resilience. Moreover, several proponents argued that current CAP or national risk management instruments were insufficient for enhancing ecological resilience. Current risk management instruments solidified conventional farming

[3] The Left group in the European Parliament - GUE/NGL

practices that were causing ecological damage while disincentivising farmers to adapt their practices or to take mitigation actions. For example:

> *"Risk management – the intensive farming model based on specialisation and few crop varieties, is locking farmers into a vicious cycle of input dependence, and making them more vulnerable to price volatility and crop failures. Publicly financed risk management instruments are merely another dis-incentive for moving to a more resilient and diversified production system; it incentivises farmers to use more resources, be more risk taking and creates leakage of CAP money into private hands".* (EEB et al., 2017, p.7)

Within the European institutions, the ecological resilience frame was commonly supported by MEPs to the left of the centre: the Greens/European Free Alliance Group, The Left Group in the European Parliament – GUE/NGL, Group of the Progressive Alliance of Socialists & Democrats. The Commission deployed only some elements of the frame, for instance, in its Farm-to-Fork Strategy or in recommendations for the National Strategic Plans of Member States, particularly linking ecological resilience to forests and the forestry sector and the EU forest strategy. However, the Commission's focus was mainly on advocating for environmental sustainability rather than on introducing major adjustments to the CAP.

## 4.5 Discussion

The frame analysis identified five distinct resilience frames that have been used by policy actors and stakeholders in the CAP post-2020 reform process. I now reflect on the broader implications of the insights emerging from the frame analysis.

First, the findings show that while the resilience concept has been deployed by many policy actors and stakeholders involved in the reform process, different

causal narratives and discursive elements were attached to the concept. Consequently, the political orientation toward greater resilience can be considered an example of a consensus frame. Whereas there seems to be broad consensus on the need of a resilient EU agricultural sector, actor groups varied in the preferred policy actions they endorsed and promoted other types of targets, challenges, purposes, and reasons. Especially the ecological resilience frame seems not well aligned with the other frames lying underneath the call for strengthened resilience, which mainly share a focus on enabling agriculture to resist and recover from shocks through existing policy measures. For example, proponents of the income resilience frame hardly proposed any adjustments to the CAP's area-based direct payments, while many supporters of the ecological resilience frame wanted to replace these payments with performance-based income support schemes for maintaining public goods. Likewise, the climate change impact resilience frame prioritises buffering potential damage caused by adverse weather shocks, while the ecological resilience frame highlights mitigation measures to protect agriculture against longer-term issues caused by climate change. Also, whereas risk management tools were proposed by e.g., the disease resilience frame to uphold agricultural productivity, proponents of the ecological resilience frame presented current risk management tools as inadequate as they locked farmers into intensive monocultural farming models that damaged long-term ecological resilience.

Second, resilience frames focusing on short-term challenges and solutions dominated over frames that proposed major adaptations or changes to deal with longer-term challenges. Put differently, apart from the ecological resilience frame, resilience was mostly framed in terms of robustness (Meuwissen et al., 2019; **Chapter 2**). The four resilience frames that were largely compatible with each other shared a bias towards recovering from short-term (economic) shocks rather than long-term environmental stresses, mainly proposed risk management tools and familiar adjustments to existing CAP instruments and aimed to protect

the status quo. The resilience concept was apparently utilised to repackage established narratives that justify familiar CAP interventions (cf. Alons & Zwaan, 2016). For instance, the income resilience frame and the farmers' supply chain position resilience frame both related resilience to the vulnerable economic position of farmers which makes them susceptible to market-related shocks. Additionally, the income resilience frame and the climate change impact frame showed compatibility as both frames highlighted how weather-related shocks threaten farmers' income and profitability. Both frames focused on risk management instruments to improve farmers' resilience to recover from weather shocks and climate change impacts. Similarly, the climate change impact resilience frame and the disease resilience frame both emphasised the occurrence of external events (i.e., diseases or extreme weather events) that negatively affect production levels and, therefore, resilience. Actors that deployed these frames recommended that the CAP should further promote and deploy risk management tools and measures to diversify agricultural practices to recover and buffer shocks caused by the external events.

These findings resonate with other studies that criticise that the resilience concept is often deployed for maintaining the status quo within existing systems and to ensure stability in dominant systems (Cretney, 2014; Olsson et al., 2015; DeVerteuil & Golubchikov, 2016; Darnhofer, 2021A). Moreover, CAP reforms are generally recognised for largely modulating policy instruments that retain the status quo e.g., due to the strong influence of traditional farmers and agri-food industry groups (proponents of the robustness-oriented frames) (e.g., Swinnen, 2015A; Greer, 2017). A dominant robustness-oriented framing of resilience has implications for the CAP's policy design. For instance, previous research has already discussed that focusing on only one dimension of resilience leads to policy trade-offs or undermining of the other two dimensions, i.e., adaptability or transformability (Ashkenazy et al., 2018). The risk of a dominant robustness-orientation is that certain resilience-enhancing or -constraining factors are

considered while others are disregarded, as demonstrated by e.g., the absence of long-term ecological challenges in the robustness-oriented frames. Additionally, a disproportionate focus on robustness can usher in policies that devote too many resources to risk compensation rather than risk reduction, such as income support or financial risk management tools. These types of instruments do not address systemic risks that, together with longer-term challenges (e.g., climate change, rural demographic changes, biodiversity loss), ask for adaptations or transformation to prevent longer-term pain (Feindt et al., 2018; Cai, 2020; Darnhofer, 2021A). Moreover, policies that dominantly focus on protecting existing functionalities, i.e., supporting robustness, risk reinforcing unsustainable existing values and causing undesirable lock-ins that complicate future change (cf. Simoens & Leipold, 2021); as well as possibly leading to future in- or exclusion of specific actors in policy-making processes (Popp et al 2021). While supporting robustness via the CAP is relevant for protecting desirable or well-performing functions, solely following a robustness-oriented approach to resilience will likely prevent effective support for adaptation or change within the EU's agricultural sector.

Third, the Commission was the only actor that deployed elements of all five resilience frames in its CAP and Farm-to-Fork communications, but also accentuated some resilience frames more than others. While the Commission repeatedly emphasised the need for income, climate change impact, and farmers' supply chain resilience, it less frequently used elements of the disease or ecological resilience frames. Deploying elements of multiple resilience frames might suggest that the Commission aimed for broad consensus and to appease multiple actors in the policy making process (Yanow, 1996; Stone, 2012; Candel et al., 2014; Dekker, 2017; Hannah & Beakkeskov, 2020). For example, the Commission did not elaborate what it understood by resilience, making the concept malleable enough for actors to fit with their respective views (cf. Anholt, 2020). Moreover, the successful implementation of the CAP is very dependent on

its implementation within the Member States, especially through the National Strategic Plans. The Commission therefore might have wanted to integrate elements of dissimilar frames into the CAP to increase its alignment with multiple Member States' existing agri-food policy discourses. Simultaneously, Member State governments might want to strategically use the ambiguity of resilience to legitimise the CAP reform at the domestic level (cf. Alons & Zwaan, 2016). Whereas considering this multi-level governance is needed for reaching consensus over and increasing the legitimacy of the CAP, it can also introduce unclear resilience choices in policies (cf. Sibbing, 2021). Future research should therefore focus on how the Commission could initiate novel multi-actor, multi-level governance arrangements which allow collectively deliberation and negotiation on what resilience means, what it requires for Europe's agricultural systems and how it can be enhanced through policy interventions (cf. Harris et al., 2018; Hansen et al., 2020).

However, one should critically reflect on the introduction of the ambiguity surrounding resilience in the CAP post-2020 reform debate, because incompatibilities hidden behind the consensus over resilience can impede the implementation of actionable resilience-enhancing policies (cf. Van Eeten, 1999; Wolf & Van Dooren, 2017; Hannah & Beakkeskov, 2020). For instance, in its CAP post-2020 proposals, the Commission introduced stronger mandatory greening requirements ("enhanced conditionality") complemented by new eco-schemes to incentivise farmers to adapt and implement agri-environmental or climate activities. However, a large share of CAP funds continues to support the status-quo (e.g., area-based income support). Moreover, the degree to which eco-schemes will foster adaptiveness will depend on how ambitious Member States are in their design and implementation, as set out in their NSPs. Furthermore, broad stakeholder attention for shared concepts like resilience does not necessarily result in the bridging of actors' frames and in effective policies (cf. Howlett et al., 2015; Hannah & Beakkeskov, 2020; Sharma & Daugbjerg, 2020). At

time of writing, a resilience frame conflict was taking place within discussions about the Farm-to-Fork Strategy. Environmental organisations and MEPs argued that the Farm-to-Fork's strategic targets on pesticide use, fertilizers, and organic farming were necessary for realising resilient and sustainable EU food systems. However, farmers' organisations and agri-food industry groups criticised the Farm-to-Fork Strategy because it would constrain resilience by reducing agricultural productivity and farmers' income. Such conflicts between competing resilience frames will likely constrain the capacity of the Farm-to-Fork strategy to legitimise long-term resilience-enhancing actions. Follow-up research could investigate to what extent ambiguous concepts like resilience feed into polarisation, stalemate, or productive consensus in policy debates, especially by focusing on interactions among involved actors in the debates over time.

## 4.6 Conclusion

This chapter started with the question of how the concept of resilience has been framed in the CAP post-2020 reform process and which policy actors and stakeholders deployed these frames. By conducting a frame analysis on policy documents of EU institutions and stakeholders that participated in the CAP post-2020 reform, I identified five distinct resilience frames: (1) Income resilience frame; (2) Farmers' supply chain position resilience frame; (3) Climate change impact resilience frame; (4) Disease resilience frame; and (5) Ecological resilience frame. This study demonstrates that the ambiguity surrounding concepts such as resilience allows actors to use them strategically to influence policy-making processes by attaching different, sometimes conflicting, policy actions. Moreover, the analysis contributed to further reflection on how the dominant bias towards robustness within resilience frames might impede consistent and actionable resilience-enhancing policy design.

Now that the resilience concept and its ambiguity are firmly established in the CAP post-2020, the Commission should critically reflect on how this ambiguity can be

turned around into broad resilience-enhancing solutions. Deploying elements of the different resilience frames might have ensured that resilience became recognised by various actors and that it is maintained on the CAP's agenda, but the Commission should follow-up on the fractured consensus if it truly wants to continue utilising the resilience concept within the CAP. Rather than neglecting or trying to depoliticise the incompatibilities between the resilience frames, the Commission could actively address the frame (in)compatibilities by collaboratively reflecting on the causal narratives and interests underlying the resilience frames, while looking forward to identify actors' resilience needs. However, the aim should not be to integrate all resilience concerns and needs within the policy, but to ensure that potential trade-offs between resilience capacities, i.e., robustness, adaptability, and transformability, are recognised and to address potentially inconsistent resilience solutions.

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# Chapter 5

# Improving the resilience-enabling capacity of the Common Agricultural Policy: policy recommendations for more resilient EU farming systems

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## Abstract

One of the aims of the post-2020 Common Agricultural Policy (CAP) is to improve the resilience of Europe's farming systems. The CAP of the budget period 2014–2020, however, has insufficiently supported the resilience of farming systems. The ongoing CAP reform process offers an appropriate opportunity to integrate a broader perspective on resilience in the CAP. This chapter therefore propose a set of policy recommendations on how to improve the capability of the CAP to support more fully the resilience (i.e., robustness, adaptability, and transformability) of farming systems in the EU. The policy recommendations are based on a comparative analysis of six national co-design workshops with stakeholders and a final EU-level workshop with Brussels-based experts. Drawing on the analysis, three key lessons about the CAP's influence on resilience are presented: (1) resilience challenges, needs and policy effects are context-specific; (2) resilience capacities are complementary, but trade-offs between robustness, adaptability and transformability occur at the level of policies and due to budget competition; (3) there is a need for a coordinated long-term vision for Europe's agriculture, which is difficult to achieve through the bargaining processes associated with a CAP reform. The chapter proposes specific policy recommendations that could contribute to a better balance between policies that support robustness, adaptability, and transformability of Europe's farming systems.

# 5. Improving the resilience-enabling capacity of the Common Agricultural Policy: policy recommendations for more resilient EU farming systems

## 5.1 Introduction

At the time of writing, discussions about the post-2020 Common Agricultural Policy (CAP) are in full swing. In June 2018, the European Commission communicated its post-2020 CAP proposals, which have been debated since then. The Commission states that the CAP should contribute to 'ensuring a more resilient agricultural sector in Europe' (European Commission, 2018B). Improving resilience will support farming systems, i.e., regional networks of comparable farm types and other non-farm actors within an agroecological context, to manage and respond to various challenges, while maintaining their essential functions, like producing food, providing employment and income, and preserving rural environments (Meuwissen et al., 2019).

Public policies, as part of a broader social context, affect the resilience of farming systems to maintain their desired functions in the face of challenges by enabling or constraining three distinctive resilience capacities: robustness, adaptability, and transformability (Meuwissen et al., 2019). Robustness is the capacity of a system to resist shocks and stresses, and to maintain previous levels of functionality, without major changes (Urruty et al., 2016). Adaptability is the capacity of a system to adjust in response to changing external circumstances, while maintaining important functionalities (Folke et al., 2010). Transformability is the capacity of a system to change fundamentally in response to shocks or stresses that make the existing system unable to maintain its essential functions (Walker et al., 2004).

The CAP, potentially, has considerable effects on the robustness, adaptability, and transformability of Europe's farming systems. Previous Horizon2020 SURE-Farm research has shown that the CAP and its national implementations support the robustness of different farming systems to varying degrees, provide less support for adaptability, and often even constrain transformability by incentivising the status quo (Feindt et al., 2018). Also, the CAP's resilience-enabling and -constraining measures are experienced in practice by different farming system actors as complex (**Chapter 3**). I followed up on these SURE-farm findings by collaboratively organising co-design workshops in six EU countries with stakeholders to reflect extensively on previous results and to collaboratively develop policy recommendations (**Box 5.1**).

**Box 5.1 Co-design workshops**

The policy recommendations are the result of six co-design workshops conducted as part of the Horizon2020 SURE-Farm project. The aim of co-design is to develop policy recommendations in collaboration with national and regional agricultural policymakers and different stakeholders (farmers and farmers' representatives, agricultural advisers, representatives of environmental NGOs and researchers).

Participants were invited as experts and 'critical friends', not as representatives of specific interests, to reflect on previous findings from the SURE-Farm project and to share insights about and experiences with the CAP, its national implementations and policy recommendations in an open deliberation. Each workshop took one farming system as starting point and followed the same guideline, involving the following steps*:

1. **Preparation**: Literature reviews to explore good national policy practices for enabling resilience in agricultural sectors and beyond; providing insights into existing policy schemes and stimulating broader reflections on future agricultural policies.

2. **Introduction**: Presentation and discussion of previous research on resilience-enabling and -constraining effects of the CAP (Feindt et al., 2018), and how these effects are experienced by farming system actors (**Chapter 3**).

3. **Round 1**: Formulation of ideal-type policy interventions for strengthening the farming system's robustness, adaptability, or transformability, without considering the existing CAP framework. Interventions were always discussed in relation to identified challenges (**Table 5.1**).

4. **Round 2**: Formulation of concrete CAP policy recommendations by relating insights of round 1 to the existing policy framework. Adjacent policies were considered if relevant for the functioning of the CAP.

5. **Closure**: Final round of suggestions and feedback.

*Due to Brexit, the UK workshop focused on future UK agricultural policies under three scenarios: (i) no deal; (ii) extreme free trade; and (iii) business as usual (see Vigani et al., 2020).

Against this background, this chapter presents a comparative analysis of the co-design workshops. For each workshop, the perceived resilience challenges, and proposed policy recommendations with the highest degree of convergence between participants were extracted through content analysis of the workshop transcripts and protocols. This analysis led to a synthesis of the recommendations per workshop. These recommendations are compared and presented in **Table 5.1.** A final EU-level workshop was organised in Brussels with 14 experts from different backgrounds, to discuss and validate the national workshop findings and share reflections on the comparison. The chapter ends by discussing three key lessons about the CAP's influence on resilience and policy recommendations for improving resilience in the post-2020 CAP.

## 5.2 The co-design workshops: key policy recommendations

I now present the key policy recommendations that followed from round 2 of the national co-design workshops.

### *5.2.1 Dairy farming in Flanders – Belgium*

The workshop resulted in recommendations for improving the robustness and adaptability of dairy farming in Flanders. First, dairy farmers experienced unnecessary administrative burdens caused by inconsistency between audits. It was recommended to reduce inconsistency and overlap between audits by setting long-term, overarching requirements. Second, land prices were driven up by incentives, such as hectare-based payments, which should, therefore, be reconsidered. Moreover, CAP subsidies should be limited more strictly to active, and especially young, farmers to reduce the leakage of agricultural subsidies to non-farming landowners. Third, land access for new and established farmers should be improved by making the Belgian tenancy law more flexible, encouraging landowners to offer long-term leases to farmers. In addition, Flemish dairy farmers would benefit from more flexible spatial planning guidelines that would make it easier for them to adapt and innovate as current guidelines favour conventional agricultural land use. Fourth, a new programme for small innovations with lower administrative demands should be introduced in the Rural Development Programme (RDP), increasing possibilities for small innovations on farms. Last, adaptive, and transformative practices would benefit from: (1) increasing support for knowledge exchange networks and agricultural education; and (2) a CAP that communicates a long-term vision with clear long-term objectives, supported by an EU framework on data use and digitalisation in the agricultural sector.

*Farming system cases*

| | **Belgium:** | **Italy:** | **The Netherlands:** | **Poland:** | **Spain:** | **The United Kingdom:** |
|---|---|---|---|---|---|---|
| | *Intensive dairy farming, Flanders* | *Small-scale farming of perennial crops (hazelnuts), Central Italy* | *Intensive arable farming, De Veenkoloniën region* | *Private family fruit and vegetable farming, Mazovian region* | *Extensive beef and sheep farming, the Guadarrama mountain range and Aragón* | *Large-scale arable farming, East England* |
| | *Participants: 17* | *Participants: 8* | *Participants: 7* | *Participants: 11* | *Participants: 9* | *Participants: 5* |
| | **Main challenges** | | | | | |
| | • Increasing administrative burdens & inconsistent audits<br>• Limited land access for new and innovative farmers<br>• Increasing land prices<br>• Leakage of agricultural subsidies to non-farmers<br>• Limited RDP funding for small innovations on farms | • Increasing international competition<br>• Decline in prices<br>• High-downstream market power<br>• Burdensome administrative process for RDP funding applications | • Increasing land prices<br>• Red tape in RDP funding schemes, blocking bottom-up innovations<br>• Inconsistent and unpredictable legislation and policies | • Unattractive national agricultural insurance schemes<br>• Low horizontal and vertical collaboration due to distrust between actors | • Limited per-hectare basic income support<br>• Limited land access<br>• Lack of appreciation for extensive grazing farming<br>• Limited new entrants<br>• Limited economic activity & employment possibilities in the rural area | • Uncertainty due to Brexit<br>• Loss of CAP subsidies<br>• Increasing competition from imported products (with lower food and production standards)<br>• Lack of seasonal labour |

| Policy recommendations co-design workshops | | | | | | |
|---|---|---|---|---|---|---|
| **Robustness** | • Set long-term, overarching requirements for audits<br>• Make Belgian tenancy law more flexible to encourage long-term leases<br>• Dismantle incentives that drive up land prices, e.g., hectare-based payments<br>• Restrict CAP subsidies to active, and especially young, farmers. | • Coaching and advisory services on CMO measures targeted at non-participating producers<br>• Revise co-financing system for measures in Operational Programs of producer organisations | • None | • Revise national insurance scheme | • Introduce coupled support, based on conditionalities, for extensive grazing farming systems | • Increase domestic (financial) support<br>• Targeted support for small farms that deliver ecosystem services<br>• Create seasonal labour schemes<br>• Reverting plant protection product assessments to being risk-based & providing solutions or alternatives ahead of withdrawing products. |
| **Adaptability** | • Create separate RDP budget system for small innovations with lower administrative demands<br>• Make Flemish spatial planning guidelines more flexible | • Simplify the administrative process for RDP funding | • Incrementally convert hectare-based payments into outcome-based payments<br>• Reduce "red tape" in RDP funding schemes | • Strengthen advisory and brokering services<br>• Encourage lifelong learning, focused on adjusting and innovating businesses<br>• Increase investments in AKIS | • Invest new in satellite data-driven monitoring technologies<br>• Use proposed eco-schemes to reward extensive farmers that provide ecosystems<br>• Support new entrants through training programs on farming practices and | • Increase information about past successes with stewardship schemes<br>• Support (new) farmers through independent advisory services, agricultural education, and land access<br>• Educate consumers about food production |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | developing business plans<br>• Adapt young farmers scheme to make part-time farming eligible<br>• Increase investments in public-private collaboration and rural development | and farmers' countryside stewardship |
| **Transformability** | • Provide long-term vision on future agriculture with clear long-term objectives (e.g., EU framework on agricultural data use). | • None | • Provide long-term vision on the future of agriculture that ensures legislative & policy consistency | • Provide long-term vision on future of agriculture that ensures consistency (e.g., focused on healthy food environment) | • None | • None |

**Table 5.1**: *Overview of farming system cases, their main challenges, and the co-designed policy recommendations*.

### *5.2.2 Hazelnut production in Viterbo – Italy*

The workshop on the hazelnut system in Viterbo focused on the system's robustness and adaptability. First, the Common Market Organisation (CMO) supports robustness by helping producer organisations to mobilise resources and by encouraging regional collective action. However, coaching, and advisory services should attract more producers to participate in CMO measures. In addition, the co-financing system for measures in the Operational Programs of producer organisations should base the co-financing percentage on the public value of the investments or activities. Both suggestions would potentially strengthen the producers' market position and possibilities for collaboration. Second, the administrative process for RDP funding was experienced as burdensome; thus, simplifications were suggested to encourage applications. Last, the European Innovation Partnership (EIP) operational groups and LEADER Local Action groups, which were regarded as useful for pursuing collectively region-specific objectives, should be promoted.

### *5.2.3 Arable farming in De Veenkoloniën – the Netherlands*

The Dutch workshop led to the formulation of recommendations for how the CAP and adjacent policies could shift from emphasising robustness towards supporting the adaptability and transformability of the arable farming system. First, the direct payments should move from hectare-based towards outcome-based payments for innovations and providing public goods. This change could create incentives for farmers to gradually adapt their business. Second, funding opportunities for innovative bottom-up initiatives should be improved by reducing the 'red tape' in existing RDP schemes. Third, the CAP and its national implementation should incorporate a clear long-term vision on the future of agriculture that ensures legislative and policy consistency and predictability in the long run. Such a vision could allow farmers to better anticipate change, plan their business activities and foster innovation. Last, it was proposed to expand

safety nets and risk management tools to support farmers in case of sudden shocks; however, it was unclear whether the government or the private sector would be responsible for these measures.

#### *5.2.4 Private family and vegetable farming in the Mazovian Region – Poland*

The Polish workshop focused on policy improvements at the national level. First, the farming system's robustness could be improved by making the national insurance scheme more attractive for farmers to sign up. Second, CAP support for horizontal and vertical collaboration was hardly used due to low levels of trust between farming system actors. By strengthening advisory and brokering services, partly through salary increases for public advisers, collaboration and adaptability could be enhanced. Third, participants missed a clear long-term vision in the CAP, focused on a healthy food environment, that would provide more consistent policies. Finally, policies should encourage lifelong learning in agricultural sectors focused on adjusting and innovating businesses and should invest in the Agricultural Knowledge and Innovation System (AKIS) to boost innovative solutions in agriculture.

#### *5.2.5 Extensive beef and sheep farming in the Guadarrama mountain range and Aragón – Spain*

The Spanish workshop proposed interventions to support the robustness and adaptability of the extensive grazing system. First, the decoupling of the direct payments had disincentivised extensive grazing; therefore, coupled support should be reintroduced, with conditionalities based on, for example, demographic, production, or quality criteria, for supporting robustness. Second, extensive farmers that provide ecosystem services should be supported more. It was recommended to use the proposed eco-schemes of the post-2020 CAP to reward these extensive farmers, who also should be supported by developing quality labels for extensive farming products and investing in regional market chains.

Third, the resilience of the extensive grazing system was constrained by limited access to land. This issue could partly be resolved by alleviating access to state-owned pastures, but also by investing in new technologies that use satellite data for monitoring access to and improving management of pastures. Fourth, new entrants to extensive farming should be supported through training programmes on farming practices and developing business plans, and by making part-time farming eligible under the young farmers scheme. Finally, the Spanish farming system's resilience would benefit from increased investments in public-private collaboration and rural development, especially to increase economic activity and employment possibilities.

### *5.2.6 Large-scale arable farming in East England – the United Kingdom*

This workshop discussed how agricultural policy should look after Brexit in three different scenarios (**Box 5.1**). It was expected that all scenarios would reduce the resilience of the UK's farming system, especially due to an expected loss of subsidies. In addition, the no-deal and extreme free-trade scenarios would cause complications regarding EU trading tariffs and increased competition from cheaper imports. It was, therefore, recommended to increase domestic (financial) support, substituting CAP support, and to protect British farmers against lower food and production standards outside the UK. Furthermore, in case of a no-deal scenario, targeted support should protect smaller farms that perform relatively well in delivering ecosystem services. In addition, environmental work could be further encouraged by informing farmers about past successes with stewardship schemes, such as the Catchment Sensitive Farming scheme. Finally, concrete recommendations for improving resilience were: (1) support (new) farmers through independent advisory services, agricultural education, and land access; (2) revert plant protection product assessments to being risk-based and providing solutions or alternatives ahead of withdrawing plant protection

products; (3) create seasonal labour schemes; and (4) educate consumers about food production and farmers' countryside stewardship.

## 5.3 Comparison of the workshops

The co-design workshops revealed overlaps and variation in participants' ideas of how to improve the resilience capacities of their farming systems (**Table 1**). First, robustness-focused policy recommendations were proposed in almost all workshops (except in the Dutch workshop). Whereas income support measures or coupled support were regarded as an option for increasing robustness in some workshops, it was argued in other workshops that income support measures, specifically the hectare-based payments, negatively affected adaptability, and transformability. These findings were validated in the Brussels workshop and triggered discussion about coupled payments, which some experts regarded as an option for supporting extensive farming systems, while others argued that payments for ecosystem services would more clearly address the desired functions.

Second, all six co-design workshops developed policy recommendations for supporting adaptability. These recommendations focused mainly on increasing flexibility within supportive policy schemes, e.g., the RDP funding schemes, which would encourage farming system actors to apply for funding for innovative ideas more often. In addition, the policy recommendations aimed to encourage social processes that allow farming system actors to develop and exchange knowledge and promote collaborations (e.g., advisory services, training and education programmes, public-private collaborations).

Third, policy recommendations for supporting transformability were co-designed only in the Flemish, Dutch and Polish workshops. In all three workshops, the recommendation was that the CAP and its national implementation should provide a clear long-term vision of the future of agriculture with the aim to realise

consistency between legislation and policies. The need for a coordinated long-term vision was confirmed during the workshop in Brussels. Such a vision could be initiated by joining up other policies to the CAP (e.g., nutrition and health policies, and climate and environmental policies), moving towards an integrated food and agriculture policy with a strong vertical dimension, i.e., co-ordination across different levels of government.

## 5.4 Key lessons learned from the workshops

Having compared the workshop results, I now reflect on three key lessons about the CAP's influence on resilience.

First, the ways in which the CAP and its national implementation schemes enable or constrain resilience strongly differ across different types of farming systems, depending on each system's characteristics, the regional context, the specific challenges, and the national policy framework, including CAP implementation choices. As a result, the desirability of the three resilience capacities also differed across the case studies. Where farming systems have already experienced major transformations, or faced enormous uncertainties or stresses, participants focused on enhancing robustness and enabling adaptability. However, where farming systems have become partially dysfunctional in the eyes of participants, recommendations emphasised transformability. For instance, the Spanish extensive grazing system, generally believed to have favourable social and ecological functions, had been stabilised through coupled direct payments. However, coupled support was considered undesirable in other contexts, where it distorts markets or preserves farming systems that have lost competitiveness or cause large environmental damage (see Brady et al., 2017; ECA, 2017).

Second, while resilience capacities can be complementary, there are trade-offs between the capacities at the level of policies and due to competition for budgets (see Ashkenazy et al., 2018). Whereas supporting robustness is relevant for

protecting existing functions, robustness-focused policies may create a false sense of stability, disincentivise adaptation and lead to undesirable lock-ins, or even the unlearning of adaptability and transformability. Thence, there is a real possibility that the CAP and its national implementations, which focus largely on fostering robustness via income support measures, currently constrain the potential of certain farming systems to adapt or transform. CAP policymakers should thus carefully consider rebalancing support for different resilience capacities.

Third, the CAP has always had an important function in communicating developmental directions. The desire for directions is reflected partly by recommendations for the post-2020 CAP to convey a long-term vision for agriculture. However, CAP reform debates are dominated by bargaining over net payer positions and national policy space. Even a visionary Commissioner must secure qualified majorities in the Parliament and the Council. This makes it unlikely that a CAP reform will create a coordinated long-term vision unless the negotiations focus more on realising a shared understanding of challenges and the CAP's effects on farming systems' resilience. It is essential that the EU develops a clearer sense of the vulnerabilities of its farming systems along with innovative strategies to increase resilience through adaptability and transformability. This is much preferable to trying to maintain a status quo co-produced by historical policies that in major ways reinforce robustness.

## 5.5 Policy recommendations for improving resilience

This chapter started with the question of how the CAP could improve EU farming systems' resilience. I conclude by offering recommendations for the ongoing CAP reform round.

To enhance robustness, policies should support farming systems' capabilities to respond to shocks and stresses. However, focusing exclusively on robustness results in rather conservative policies with constraining effects on other resilience

capacities. The proposed post-2020 CAP continues to prioritise income support via hectare-based payments. Income support might enhance robustness but cannot be justified on this ground beyond the minimum level required for robustness, as these payments can also have negative consequences on the resilience of some farming systems, e.g., increasing land prices, or creating inequality in received support. Support for robustness should be limited to a guaranteed maintenance of a basic floor for farming systems to fall back on during crises, for uninsurable systemic risks and for perturbations that cannot be absorbed by the farming system alone. This requires policies with a greater focus on anticipation, guided by foresight assessments and exercises to find concrete actions for how to respond to undesirable scenarios.

To enhance adaptability, policies should prioritise outcomes rather than means or the process for reaching adaptive objectives in the CAP. This would increase flexibility for farming system actors to decide how to reach the CAP's desired outcomes, while tailoring them to context-specific challenges and desirability. Whereas the current proposals suggest that the post-2020 CAP will remain means-oriented, it does offer considerable flexibility for Member States which will define their national priorities and implementation choices via the National Strategic Plans. Furthermore, the newly introduced eco-schemes increase possibilities for Member States to develop more performance-based schemes to support farmers undertaking climate and agri-environmental activities. However, to really support adaptability, the flexibility in supportive policy schemes and the monitoring and control schemes should be increased, using flexible regulations and integrated inspections while safeguarding desired outcomes. Moreover, the CAP should encourage adaptive and innovative practices by including funding for projects rather than predefined measures; and multiple tiers of payment levels, for instance, aligned with private certification schemes of corresponding levels of ambition.

To enhance transformability, the CAP should be based on a coordinated vision for the future of Europe's agriculture. This vision should communicate norms and priorities that give directions for the desired future, supported by clear coherent policy objectives and instruments that reinforce rather than undermine each other. The recent adoption of the Farm-to-Fork Strategy, in which the European Commission introduces its plans for the transition towards a sustainable EU food system, can be considered a promising first step for offering such a longer-term perspective. However, it remains to be seen whether and how the Farm-to-Fork Strategy will be aligned with the development of the National Strategic Plans and the overall CAP reform process. Furthermore, the CAP should stimulate deep learning and critical self-examination through specific instruments that enable dialogue and co-design; as well as encouraging out-of-the-box-thinking, for instance, by communicating about unconventional innovations and uncommon but successful farming practices. Programmes for rural cooperation in Pillar 2 (e.g., EIP-AGRI and LEADER plus) play a key role in this regard and should therefore encourage integrated approaches across sectors and policy areas to enhance collaboration.

By developing policies that effectively reflect these lessons and recommendations, policymakers may succeed in developing a post-2020 CAP that will improve the resilience of Europe's farming systems.

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# Chapter 6

# General discussion & conclusion

# 6. General discussion & conclusion

## 6.1 Introduction

The point of departure for this dissertation was the observation that the resilience of European farming systems is increasingly being put under pressure due to different types of short-term shocks and long-term stresses. The potential impact of these shocks and stresses makes it difficult for farming systems to continue delivering their private and public goods. To overcome these challenges and to ensure that farming systems can function in their desired ways now and in the (near) future, scholars and policymakers call for strengthening resilience through EU agricultural policy. Whereas the resilience concept is progressively gaining attention in academic literature and has found its way into EU agricultural policymaking, systematic research to understand the link between resilience and public policies has remained scarce. It is, however, essential to have a comprehensive understanding of how the design of and the interactions between policies can influence resilience if one's aim is to support farming systems' resilience through agricultural policy.

The aim of this dissertation was therefore to expand the scientific knowledge on how EU agricultural policy, especially the Common Agricultural Policy (CAP), shapes the resilience of farming systems; and to explore suggestions for how policies can improve or enhance farming systems' resilience. In this dissertation, I sought to answer the central research question: ***How does EU agricultural policy shape the resilience of European farming systems?*** The research in this dissertation was guided by the following four sub-questions, each providing specific insights, that together contribute to formulating an answer to the central question:

**Sub-question 1**. *How do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system?*

**Sub-question 2**. *How do actors at the farming-system level experience the influence of policies on the resilience of farming system cases in Flanders, the Netherlands, Poland, Spain, and the UK?*

**Sub-question 3.** *How is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames?*

**Sub-question 4.** *What policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers?*

This chapter will proceed by presenting the main conclusions and answers to each of the four sub-questions as well as the central research question of this dissertation (**Section 6.1**). This is followed by a reflection on the strengths and limitations of the research whilst also discussing its main theoretical contributions and proposing potential future research topics (**Section 6.2**). The chapter concludes by reflecting on policy implications that follow from the research (**Section 6.3**).

## 6.1 Synthesising the results: answering the research questions

### *6.1.1 How do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system?*

To study how public policies can contribute to a resilient EU agricultural sector, it was essential to have a clear, conceptual understanding of farming systems' resilience and of the relation between policies and resilience. In Chapter 2, I therefore presented the **Res**ilience **A**ssessment **T**ool (ResAT), a heuristic that offers a conceptualisation of the relationship between public policy outputs, consisting of goals and instruments, and farming systems' resilience in terms of their capacities for robustness, adaptability, and transformability (**Figure 6.1**). I applied the ResAT to analyse the effects of the CAP and its national implementation on the resilience of an intensive arable farming system in *De Veenkoloniën* in the Netherlands.

Chapter 2 concluded that the CAP is not suited to support the overall resilience of farming systems, and that the policy therefore needs to integrate a longer-term perspective on resilience. The ResAT revealed that the CAP and its Dutch implementation contain a strong focus on strengthening the robustness of intensive arable farming in *De Veenkoloniën,* but that the policy limitedly supports the farming system's capability to implement the necessary adaptations or change to deal with long-term stresses. For instance, the CAP strongly supports the robustness of the arable farming system through the use of several of its goals and instruments. The policy strongly emphasises stabilising markets, mitigating short-term risks, and quick recovery after a shock to prevent further escalation; at the same time, it offers market management measures to mitigate emergencies quickly rather than tackling the causes of these disturbances. Moreover, the CAP's income support through area-based direct payments is justified as a guaranteed

source of income that offers financial buffers, while also preserving the farming systems' status quo and standard business operations.

In contrast, the CAP offers less resources for instruments that can enable adaptability, mainly measures in the Dutch Rural Development Programme (RDP) support possibilities for social learning, innovations, and diversification of agricultural practices. Whereas policy goals and instruments can enable transformability through a long-term focus, dismantling incentives that support the status quo, supporting in-depth learning, and promoting niche innovations, the CAP hardly contains these characteristics. These findings resonate with earlier studies of the CAP that have shown that it contains policy elements that reinforce the status quo, which are largely based on established ideas that justify exceptional policy treatment of the agricultural sector (e.g., Feindt, 2010; Lowe et al., 2010; Swinnen, 2015B; Alons & Zwaan, 2016; Daugbjerg & Feindt 2017; Alons, 2017; Greer, 2017).

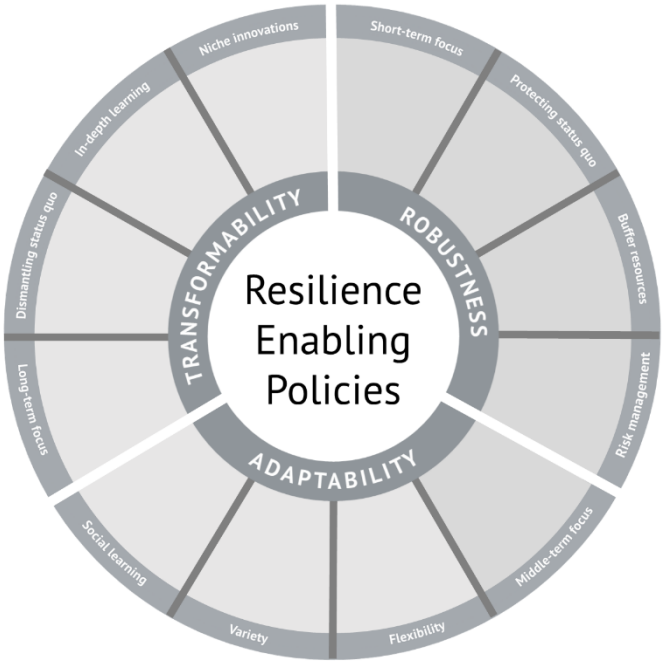


**Figure 6.1**: *The ResAT and the indicators for robustness-, adaptability-, and transformability-enabling policies (outer ring).*

The CAP's relatively strong support for robustness undermines adaptation or transformation by favouring goals and instruments that discourage the adoption of novel farming practices, innovation, or changing business models (cf. Ashkenazy et al., 2018). The CAP's design therefore does not enable the overall resilience of farming systems. The CAP should integrate more consistent and supportive measures for farmers and farming systems to develop their adaptability to changing conditions, and likewise, to develop their capacity to transform mainstream agricultural practices – especially considering the challenges that demand a longer-term approach, or that are too forceful to allow farms to maintain their status quo.

### *6.1.2 How do actors at the farming-system level experience the influence of policies on the resilience of farming system cases in Flanders, the Netherlands, Poland, Spain, and the UK?*

Chapter 3 adopted a bottom-up approach that provided insights into whether and how policies influence resilience as experienced by actors related to five farming system cases[4]. Across the farming system cases, actors broadly experienced that the CAP and adjacent policies affected the resilience of their respective farming system in uneven ways. The analysis found patterns between experienced resilience-effects of specific policy instruments and certain types of farming systems, revealing that intended resilience outcomes are not always achieved due to farming systems' characteristics or (historical) differences in national CAP implementations between e.g., 'older' and 'newer' Member States.

Across all five farming systems, actors felt that the policies were mostly supportive for the robustness of their farming systems. Especially, the CAP's area-based direct payments were experienced as an influential instrument which is

[4] Dairy farming in Flanders (Belgium); intensive arable farming in De Veenkoloniën (the Netherlands); private family fruit and vegetable farming in Mazovia and Podlasie (Poland); extensive sheep farming in Aragón (Spain); and large-scale arable farming in the East of England (United Kingdom).

expected to offer a financial buffer against shocks, particularly by farmers in the Flemish, Dutch, Spanish and UK case. Whereas the direct payments were expected to enhance farming systems' robustness, their effects are mediated through access to land and landownership. Consequently, the land-intensive farming systems benefit more from the area-based payments to enhance their robustness, while similar-sized payments are unattainable for small-scale farms, less land-intensive systems, and tenant farmers.

Nonetheless, actors experienced that the CAP is not successful in strengthening their farming systems' adaptability. For instance, while measures in the RDPs were recognised as aiming to enable adaptability, both farmers and non-farmers (e.g., advisers, regional policy practitioners), especially in the Flemish, Dutch, Polish and UK cases, argued that the bureaucracy associated with RDPs makes them ineffective or even constrains implementing adaptive practices. Furthermore, in almost all farming system cases except for the Spanish case, the CAP's direct payments were considered to have constraining effects on the adaptability of farming systems. Particularly Dutch, English, and Polish farmers argued that income support through the CAP's direct payments is stifling competition, allowing otherwise less profitable or dysfunctional farming business models to continue. However, the resilience of declining farming systems might require income support that stabilises the system and can provide additional financial means for adapting farming practices, as exemplified by the Spanish extensive grazing system (see also Paas et al., 2021).

The CAP and other policies were also experienced as constraining transformative change. For instance, farming system actors in the Flemish, Dutch, Polish and UK cases specifically indicated experiencing policies as changing too often, thereby constraining farmers to engage in more long-term planning and investments for transformation. At the same time, interventions that require change (e.g., environmental regulations or reducing the use of plant protection products) were

experienced as constraining or threatening farm resilience, while inter alia environmental NGOs and certain policymakers considered these policy changes as necessary. However, this finding seems to expose a bias towards resilience-as-robustness within farming systems and might explain which policy effects are experienced as resilience-enabling and which are not.

So, the bottom-up policy analysis demonstrated that to support the overall resilience of farming systems, the CAP and its national implementations should focus on rebalancing the budget and policy design to not discourage or hinder adaptability and transformability. However, the analysis showed that the specific context of farming systems is highly determining the resilience-effects of the CAP and adjacent policies, meaning that rebalancing entails designing flexible policy instruments that can be tailored to fit the divergent resilience needs of EU farming systems.

#### *6.1.3 How is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames?*

In Chapter 4, I reconstructed how the concept of resilience is used in EU agricultural policymaking by specifically focusing on the framing of resilience in the CAP post-2020 reform process. Five distinct ways of framing resilience were identified by analysing 123 policy documents of EU institutions and stakeholders related to the CAP post-2020 reform debate and the Farm-to-Fork Strategy. I referred to these frames as: (1) *Income resilience frame*; (2) *Farmers' supply chain position resilience frame*; (3) *Climate change impact resilience frame*; (4) *Disease resilience frame*; and (5) *Ecological resilience frame*.

The frame analysis showed that the resilience concept has been deployed by various policy actors and stakeholders involved in the CAP reform process; however, different causal narratives and discursive elements were attached to the concept. Whereas there seems to be broad consensus on the need for a resilient

EU agricultural sector, actor groups varied in their preferred policy actions to strengthen resilience and promoted a variety of targets, challenges, purposes, and reasons. The analysis revealed dissensus over the required approach towards greater resilience behind what at first appeared as a consensus frame (Gamson, 1995). At the same time, the European Commission deployed elements of all five resilience frames in its CAP and Farm-to-Fork communications. By strategically using the ambiguity surrounding the resilience concept, the Commission might have aimed to gain broad consensus and to appease multiple actors in the CAP reform process (Yanow, 1996; Stone, 2012; Candel et al., 2014; Dekker, 2017; Hannah & Beakkeskov, 2020). Moreover, the Commission might have wanted to increase the CAP's alignment with existing agri-food policy discourses in the Member States to enable effective implementation of the CAP at national levels (cf. Alons & Zwaan, 2016).

Despite differences in meanings attached to the resilience concept, the resilience frames that focused on short-term challenges and solutions were more dominant compared to frames that recommended adaptive practices or changes to deal with longer-term challenges. The *income resilience frame*, *farmers' supply chain position resilience frame*, *climate change impact resilience frame*, and *disease resilience frame* shared a bias towards recovering from short-term (economic) shocks rather than long-term environmental stresses. Accordingly, these frames mainly proposed various risk management tools and familiar adjustments to existing CAP instruments to maintain the status quo. These results are in line with the findings of Chapter 2 and 3 that have revealed a robustness-oriented approach for enabling resilience in EU agricultural policies, which thus seems to continue in the CAP post-2020. So, the frame analysis has demonstrated that the ambiguity of the resilience concept allowed actors to reinforce a robustness-oriented approach under the label of being 'resilience-enhancing'. This requires a critically reflection on the introduction of resilience in the CAP post-2020 reform because the apparent consensus over resilience potentially introduces inconsistent and one-

sided resilience-enhancing solutions (cf. Van Eeten, 1999; Wolf & Van Dooren, 2017; Hannah & Beakkeskov, 2020).

### *6.1.4 What policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers?*

One of the main aims of the CAP post-2020 is to improve the resilience of Europe's farming systems. Chapters 2 and 3 revealed that the CAP of the budget period 2014-2020 has insufficiently and unevenly supported the three resilience capacities, and Chapter 4 found that robustness-oriented resilience frames dominated the CAP post-2020 reform process. In Chapter 5, I followed up on these findings and identified opportunities on how to improve the capability of the CAP to better support the robustness, adaptability, and transformability of EU farming systems. This study was conducted amid the CAP post-2020 reform process, which offered a fitting opportunity to engage with agricultural policymakers and stakeholders in different EU Member States to discuss and to co-design policy recommendations. The co-design workshops revealed overlap and variation in participants' ideas for resilience-enabling policies, which shaped the following set of policy recommendations.

*To enhance robustness*, policies should aim to support farming systems' capabilities to respond to shocks and stresses. An exclusive focus on robustness, however, results in policies with constraining effects on other resilience capacities which cannot be justified. Support for robustness should be limited to a guaranteed maintenance of a base for farming systems to fall back on during unforeseen crises, for uninsurable systemic risks and for perturbations that cannot be absorbed by the farming system alone. Robustness-oriented policies should therefore focus on anticipation, guided by foresight assessments and exercises to find concrete responses to undesirable scenarios.

To *enhance adaptability*, the CAP should prioritise outcomes rather than means or the process for reaching adaptive objectives. Moving away from means-oriented policies would provide farming systems actors with more flexibility to reach desired outcomes and to tailor the policies to the context-specific challenges and desirability. The new CAP post-2020 is already moving towards increasing flexibility through, for example, the introduction of National Strategic Plans (NSPs). However, the CAP should work on increasing the flexibility in its supportive policy schemes, and the monitoring and control schemes by introducing more flexible regulations and integrated inspections. Also, include CAP funding for projects rather than predefined measures, which includes multiple tiers of payment levels linked to levels of ambition.

To *enhance transformability*, the CAP should aim to determine a coordinated vision for the future of Europe's agriculture. This vision should aim to communicate norms and priorities that give directions towards the desired (near) future, supported by clear coherent policy goals and instruments that focus on long-term change rather than business-as-usual. The European Commission's Farm-to-Fork Strategy offers an example of how such a long-term strategy for more resilient farming systems might take shape. Moreover, the CAP and adjacent policies should increase stimulating deep learning and critical self-examination through e.g., cross-sectoral dialogues and co-design for unconventional innovations and uncommon but successful farming practices. The available programmes for rural cooperation in CAP Pillar II, such as EIP-AGRI and LEADER Plus, offer ways to increase this type of collaborations.

### *6.1.5 Answering the central research question: How does EU agricultural policy shape the resilience of European farming systems?*

Altogether, EU agricultural policy, headed by the CAP, largely puts forth a one-sided way to strengthen resilience and, therefore, shapes the resilience of European farming systems with uneven and adverse effects. EU agricultural policy mainly has a bias for a robustness-oriented approach to enhance resilience whilst limitedly supporting adaptability and transformability. The policy is focused on ensuring that farming systems can bounce back to a familiar situation after short-term shocks, particularly by resorting to familiar and conventional policy interventions (e.g., direct income support), which was also largely experienced by farming system actors. Therefore, 'bouncing back' not only refers to returning to the status quo in the farming systems, but also to falling back on the same type of policy instruments, which are often insufficient to support the whole range of resilience capacities. EU agricultural policy thus mirrors the resilience approach of the rigid Oak – as told in Aesop's fable presented in **Chapter 1** of this dissertation – by resorting to prior means of resistance rather than adapting or changing.

This one-sided approach towards resilience is explicable since the resilience concept is used as a politically strategic discursive device rather than a genuine policy objective in EU agricultural policymaking. Short-term and robustness-oriented solutions are linked to the concept of resilience to endorse policy instruments that implicitly contribute to sustaining the status quo instead of supporting farming systems to deal with unexpected or long-term changes. These policy instruments create an environment at the farming-system level in which resilience-as-robustness becomes the norm while adaptations or transformative changes are disincentivised. It should be noted that enhancing robustness is not necessarily bad, especially not if it supports farming systems that function as desired. However, in the recent CAP post-2020 reform, the resilience concept has

almost exclusively been utilised to reinforce the status quo of business operation in EU agriculture and the policy's basic instruments remain largely unchanged.

It is detrimental for the resilience of farming systems when policy actors and stakeholders closely involved in designing EU agricultural policy have limited engagement with the notion of adaptability and transformability as integral to resilience. Given the acknowledged long-term challenges, e.g., climate change, biodiversity loss, or rural development issues, as well as the unsustainability of certain practices or farming systems, EU agricultural policy should move forward towards supporting adaptive or transformative measures. However, contemporary policy instruments have largely proven to be insufficient for reaching sustainability objectives or reversing agriculture's environmental impact. Policymakers thus need to genuinely reconsider the design of policies and their devoted resources to implement adaptations or transformative change that help farming systems to guarantee the provision of private and public goods now and in the future.

Since EU agricultural policy neither contains a comprehensive understanding of resilience nor can sufficiently or equally support all three resilience capacities of farming systems in their different contexts, there is a need for a fundamental debate about resilience in agricultural policy. One key move would be to cease restricting the resilience concept to entrenched and conventional perspectives based on safeguarding farming systems' current productivity and private economic benefits. Shaping resilient EU farming systems requires a redesign of EU agricultural policy based on a broader and longer-term vision that provides flexible pathways towards the necessary robustness, adaptability, and transformability at the local farming-system level. I further reflect on the implications for EU policies and policymaking in section 6.3.

## 6.2 Reflections on the research: strengths, limitations, and future research

### *6.2.1 Strengths and scientific contributions*

In the research chapters of this dissertation, I have made several theoretical contributions to the existing public policy and resilience literature, especially by connecting these two scientific fields. In the following section, I present the strengths and main contributions of the research.

First, this dissertation contributes to both resilience scholarship and policy sciences by developing a novel conceptualisation of how policy design elements may influence the resilience of complex systems, such as farming systems. Whereas the resilience literature has aimed to study policy characteristics that could influence systems' resilience, I have connected this research interest to the analysis of policy design and thereby offer a more in-depth understanding of the specificalities through which policies enable or constrain resilience. Moreover, policy scientists have emphasised the need to include resilience in the design of policies for dealing with the wide range of surprises and uncertainty in our world (e.g., Howlett, 2019). With this research, I went beyond this call by not only focusing on the resilience of policies themselves but also on how they could potentially contribute to systems' resilience. I have showed how the insights provided by policy design theory are useful for systematically analysing how and which design make resilience-oriented policies in farming systems work or fail. Accordingly, I have introduced the ResAT as one of the first frameworks for systematically analysing the influence of specific policy design on resilience. Breaking down policies into goals and instruments has helped to make sense of the complexity of the mix of agricultural policies by making synergies and trade-offs visible regarding the three resilience capacities of robustness, adaptability,

and transformability, which in turn echoes earlier research (Anderies et al., 2013; Ashkenazy et al., 2018; Béné et al., 2012).

Second, whereas policy science scholars have repeatedly emphasised that policies, once implemented, do not always have the intended effects (e.g., Yanow, 1996; Knill & Tosun, 2012), applying a bottom-up perspective to study the policy effects on resilience at the farming-system level has proven to be rather unique. Studies that focus on the experiences of farming system actors to grasp how the design and the delivery of policies influence resilience are limited. This dissertation's bottom-up analysis has provided an additional and complementary in-depth understanding of the relation between policies and farming systems' resilience. Whereas the top-down perspective helped to understand the operational logic of EU agricultural policy, analysing the experienced policy effects of actors has shed light on how policies contribute to resilience as part of the daily reality in the farming systems. Accordingly, I have highlighted the importance to not lose track of systems' characteristics, local context, and the expectations of the targeted actors to analyse the influence of policies on resilience. This research thus contributed to the resilience and policy literature by offering insights into the interactions between implemented policies and resilience outcomes. I advanced the analysis of resilience-oriented policies by showing the advantages of utilising both a top-down and bottom-up perspective, and how these perspectives can complement each other.

Third, the research in this dissertation contributes to contemporary research on EU agricultural policy, especially to the debate concerning the design and reform of the CAP and its effects on the agricultural sector in Europe (see e.g., Daugbjerg & Swinbank, 2016; Daugbjerg & Feindt, 2017; Fresco & Poppe, 2016; Vogelzang et al., 2016). This research has been one of the first to use a resilience perspective to analyse the CAP and its influence on farming systems, which is well-timed, considering that the European Commission adopted resilience as a principle for

its agri-food policymaking for the coming years. The resilience perspective adopted in this dissertation has proven valuable for understanding how policy design impacts the ability of European farming systems to deal with shocks and stresses - both positively and negatively – as well as for identifying potential policy improvements. Moreover, the differentiation between robustness, adaptability, and transformability can shed new light on how the CAP continues to provide strong support for business-as-usual approaches and seems incapable of properly addressing contemporary long-term challenges which require adaptation or transformation. These findings advance the debate and ongoing call for the need to revise the CAP, or agricultural policies more generally, to deal with biodiversity loss, climate change, environmental pollution and degradation, but also with farmers' socio-economic challenges (Pe'er et al., 2019; DeBoe et al., 2020; Pe'er et al., 2020; Šumrada et al., 2020).

Fourth, this dissertation's research has shown that integrating the resilience concept into EU agricultural policymaking is not without implications. The research has therefore emphasised the need to critically reflect on the frames, goals, and instruments attached to the resilience concept to prevent imbalanced or one-sided resilience-enhancing policies. For instance, a dominant robustness-oriented framing of resilience can lead to agricultural policies that overly focus on protecting existing functions, potentially reinforcing unsustainable lock-ins while disregarding options to address systemic risks or longer-term challenges. I have therefore argued to politicise and actively address (in)compatibilities between alternative resilience frames, which would in turn contribute to building a broader perspective on resilience into agricultural policy. These conclusions resonate with the call of Jackson et al., (2021) to critically review dominant food frames and how they shape food policies, and the need to deploy additional framings for developing just, socially inclusive, and environmental-friendly food systems. More generally, this research adds to the debate in the resilience literature that critically addresses the desirability of resilience efforts if they are

solely focused on sustaining the status quo and introducing incremental change (e.g., Cretney, 2014; Brown, 2014; Pizzo, 2015; Olsson et al., 2015; DeVerteuil & Golubchikov, 2016; Moser et al., 2019; Darnhofer, 2021B). It is likely that the notion of resilience will continue to guide policymaking, making research that critically reflects on what is meant by resilience, by whom, how it should be achieved, and why actors frame it that way increasingly important (Brown, 2014; Moser et al., 2019; Jackson et al., 2021).

### *6.2.2 Limitations and future research*

Along with its contributions, I also identified some overarching limitations of the research. In this section, I reflect on these limitations and recommend ideas for future research.

First, whereas focussing on the farming-system level for understanding the link between agricultural policies and resilience is appropriate, a drawback of this perspective is that it particularly searches for resilience explanations and solutions by targeting the primary production side of the food system. This research already included other actors of the supply chain, governments, and civil society organisations to broadening the scope from only targeting primary producers. However, farming systems as food producers are inherently linked to many other actors, activities, sectors, and outcomes in a food system. For instance, the COVID-19 pandemic has shown how disruptions in food supply chains and lost market access due to closed borders, closure of restaurants, lack of workforce, or changes in consumer buying behaviour also affect farming systems (Lioutas & Charatsari, 2021). Scholars are therefore increasingly acknowledging that addressing resilience challenges, such as price and income volatility, food security, environmental degradation, and public health, requires a comprehensive policy approach that also targets the processing, distribution, manufacturing, consumption, and waste disposal of food (Hospes & Brons, 2016; Candel & Pereira, 2017; Lee-Gammage, 2017). In this sense, predominantly focusing on

traditional agricultural policy for increasing the resilience of farming systems might partially fall short because they only deal with a share of the elements that determine resilience outcomes in complex systems. From a food systems perspective, improving the resilience of farming systems would also involve policies that improve the resilience of the whole food system. Further research should therefore analyse the relation between policy outcomes and resilience in different sectors and domains of food systems and address the mutual influence and feedback between them. Such research could help identify intervention points for aligning policy efforts for maintaining robustness, supporting adaptation, and managing transformation within and across food systems.

Second, although this dissertation is interested in EU agricultural policymaking, it predominantly addresses the influence of EU policies at the farming-system level and accounts less for the political institutions and structures that shape these policies. For instance, the research in this dissertation focused on policymakers to mainly gain detailed insights into the current mix of agricultural policies and their (intended) effects on the resilience capacities of farming systems. However, it has not explicitly addressed which specific steps and interactions occur in political policy formulation and decision-making processes that lead to certain policy design choices rather than others to enhance resilience. Previous studies have acknowledged that defining resilience is inherently political and power-laden (e.g., Harris et al., 2018; Dewulf et al., 2019), meaning that progressively understanding policy choices for strengthening resilience also requires more political-sensitive studies. This research therefore already started to focus on the political realm of EU agricultural policy by accounting for the resilience frames and desired policy interventions endorsed by political actors in, for example, EU institutions during the CAP reform process (**Chapter 4**). However, future research should entail more detailed studies on the actual political processes - within as well as across governmental levels - as these occur, change over time, and shape the design of resilience-oriented policies. Researchers can address questions such

as: what means do political actors use to (not) place resilience on the political agenda and for what reasons; whose resilience interests are pushed on and in what ways; and how do interactions between political actors shape certain agricultural policies and what are the potential resilience outcomes? Studying these types of questions is important to attend to the political component of designing policies for strengthening resilience in agriculture or beyond.

Third, applying the ResAT to the intensive arable farming system case in *De Veenkoloniën* offered valuable insights in the complex policy design of the CAP. However, it proved difficult to directly translate these findings to other farming systems across the EU with their own specific characteristics and challenges. A logical follow-up research would therefore be to increase the number of farming system cases for applying the ResAT, making it possible to compare results and further identify patterns between policy goals, instruments and the three resilience capacities. During the SURE-Farm Project, the ResAT has already been applied to ten other European farming systems to assess and compare how the national implementations of the CAP affect the resilience of these systems (see Feindt et al., 2018). This SURE-Farm study has resulted in promising insights that have contributed to this dissertation. For example, the study further confirmed the CAP's bias towards robustness but also showed how different CAP policy elements can have various enabling- or constraining-effects depending on the farming system type or the Member State. Drawing on these insights, it would be valuable to aim at larger comparative research of farming systems across more EU Member States. Further studies should also compare farming systems within individual Member States, limiting the research to the question whether differences in enabling- or constraining-effects are caused by e.g., national CAP implementation choices or variation in policymaking or governance culture. Such research becomes especially interesting considering that the CAP post-2020 offers Member States significant more room in designing their national implementations through NSPs. The ResAT could also be useful to start analysing

how policies address the resilience of other types of complex systems, such as food systems, bio-based production systems, energy systems, water systems, or socio-ecological systems more generally.

Fourth, the inclusion of multiple different farming system cases, representing a mixture of farm types and local contexts, has proven to be relevant to exploring the context-specific resilience-effects of EU agricultural policy. However, whereas this research ensured heterogeneity between farming systems by studying different cases across Europe, it has accounted less for the differences *within* the individual farming systems. For instance, Barnes et al., (2022) have found that differences in farmers' identities, based on various variables, e.g., specialised or mixed farming, farm household size, or the management structure of the farm, determine farmers' perceptions and uptake of ecological practices. Also, Cullen et al., (2020) reported that farmers' self-identity and attitudes towards farming impact their participation in agri-environmental schemes. The same might be true for how differences between farmers' identities in an individual farming system can lead to differences in (experienced) policy effects on resilience. This indicates that exploring the heterogeneity between farmers within a farming system can provide relevant insights for understanding how agricultural policies shape resilience. A recommendation for future work is to conduct more in-depth analyses of the effects of policies on resilience in specific farming systems, in which clear distinctions are made between, for example, the farmer and farm characteristics. Such research would help to map the heterogeneity that might exist within farming systems, followed by exploring patterns between specific farmer and farm characteristics and (experienced) resilience effects of policies. Moreover, it would be relevant to continue studying whether multiple types of farmer identities and attitudes towards resilience exist, along with any associated interventions. This would be an interesting study for investigating factors that determine the adoption of adaptive or transformative measures, which would in

turn potentially inform policy design and focussed interventions towards strengthening resilience.

## 6.3 Policy implications and reflecting on future policies

Throughout the research chapters of this dissertation, I have made various specific recommendations for improving the resilience-enhancing capabilities of EU agricultural policy. Key to improving the resilience of farming systems by using policies is to (re)design agricultural policy towards a better balance between robustness-, adaptability-, and transformability-enhancing goals and instruments. At the time of writing this dissertation, the agreement on the CAP post-2020 reform has been formally adopted and will be implemented in 2023, and the EU Green Deal has been launched as well. The following paragraphs discuss how the recommendations made throughout the research chapters are reflected in the newly (re)designed CAP and the Green Deal, specifically the Farm-to-Fork Strategy. This dissertation ends by reflecting on why it is necessary to politicise the resilience debate for agricultural policymaking.

First, a starting point for strengthening resilience is to decrease the almost exclusive focus and resources devoted to robustness-oriented policy design and increase support for adaptability and transformability. At the time of writing this dissertation, reality has reminded us that not everything can be planned: besides longer-term challenges, unpredictable events (e.g., the COVID-19 pandemic or the war in Ukraine and their impacts on inter alia agri-food systems) trigger changes that require adaptation or transformation. Policy support for robustness should therefore be limited to non-systemic shocks that cannot be absorbed by the farming system alone and focus more on anticipating undesirable situations, meaning that area-based income support should be reconsidered. However, the new CAP will not differ significantly from the previous reform: its two-pillar structure remains in place, whereby income continues to stream in through area-based direct payments. Previous research has already discussed how the

continuation of area-based payments increases the unequal distribution of payments rather than supporting those who require the payments the most, whilst not acting as mitigation for shocks or stresses (Pe'er et al., 2020; Grochowska et al., 2021; Slijper et al., 2021). The newly introduced *enhanced conditionality* set stronger mandatory requirements to be eligible for income support, specifically regarding the environment and climate. However, these baseline requirements follow from integrating previous cross-compliance and greening regulations, which have been heavily criticised regarding their limited effectiveness in achieving change in agricultural practices (Heinemann & Weiss, 2018; ECA, 2017; Pe'er et al., 2020).

Second, a more promising point is that the CAP post-2020 has moved towards more flexible policy design as Member States indicate their national priorities and implementation choices via NSPs within a common EU framework. Improving the options to adjust the national implementations of the CAP makes it more possible to align the support with the farming systems' specific resilience needs, depending on their challenges and specific context. Moreover, the new *eco-schemes* have the potential to help address environmental and climate concerns by offering stronger incentives for farmers to undertake environmental- and climate-friendly activities in Pillar I (Baayen & Van Doorn, 2020; European Commission, 2021B). Despite only consisting of annual contracts, the eco-schemes move income support towards performance-based payment schemes that incentivise the provision of public goods and the adoption of adaptive or transformative measures. However, the impact of the NSPs and eco-schemes stand or fall with how ambitious Member States are in their design and implementation as well as the governmental capacity of individual Member States (Birckenstock & Röger, 2019; Dupraz & Guyomard, 2019; Pe'er et al., 2019; Poppe & Koutstaal, 2020). The European Commission has committed to evaluate the design of the NSPs (e.g., whether the plans are in line with the ambitions of the Green Deal) in a process of dialogue with the Member States. At the time of writing, Member States have

officially submitted their draft NSPs to the European Commission for approval. However, the Commission was already critical on several NSPs for lacking the required environmental ambitions (Foote, 2022). To ensure that the NSPs sufficiently contribute to farming systems' resilience, the Commission should use this evaluative process to settle on a certain level of commitment in terms of support for farming systems to adapt and change. A recommended approach could be to particularly address and assess the policy trade-offs between robustness, adaptability, and transformability in the plans (cf. Pe'er et al., 2019), whilst recommending suitable combinations of eco-schemes, agri-environmental programmes, and programmes for knowledge transfer (LEADER, EIP-AGRI, and AKIS).

Third, developing a coordinated longer-term vision on the agricultural sector in Europe will help to communicate pathways towards adaptation and transformation. Besides offering norms and priorities towards the desired future, such a vision also supports farming system-level actors to anticipate future policy demands by showing which is the way forward (cf. Pot, 2020). For instance, the European Commission has already set out a strategic long-term vision, targeting various sectors and covering different EU policies, for reaching a climate neutral economy in the EU (European Commission, 2022A). This objective is also at the heart of the EU's Green Deal, which could be considered a first step towards a vision for the transition towards a sustainable EU food system through the Farm-to-Fork Strategy and Biodiversity Strategy. These strategies provide the ambitions and concrete targets to which agri-food policymaking in the EU need to adhere. The strategies have a strong focus on reaching targets through innovations but address to a lesser extent the social processes, power relations, or trade-offs associated with transforming food systems (Schebesta & Candel, 2020; Jackson et al., 2021; Moschitz et al., 2021). There is therefore a need for an EU resilience vision that has a stronger focus on the socio-political environment to change and mobilise the social and behavioural processes that shape adaptive

or transformative actions. This vision would, for example, set ambitious objectives focused on social and in-depth learning, education, social innovation, and critical reflection (e.g., through advisory services, LEADER, EIP-AGRI, and AKIS) whilst not being too tightly coordinated that it cannot move along with changing ideas, priorities, challenges, or outcomes.

Last, the debate about the resilience concept needs to become more politicised, which would support the development of resilience-oriented policies and a longer-term vision. Rather than approaching resilience as a 'technical' or 'management' debate in which one works towards a definitive goal or outcome, it should be made clear that resilience unavoidably involves controversy and that trade-offs are inherent to building resilience (cf. Harris et al., 2018; Dewulf et al., 2019; Moser et al., 2019; Hansen et al., 2020). Designing policies for resilience is not a question of simply choosing between robustness, adaptability, and transformability, but involves difficult political choices that need to be addressed properly during the design process. It is therefore essential that the rationales, values, and priorities that underly the design choices be explicitly debated, along with what these choices might imply for the involved actors and the whole systems (Harris et al., 2018; Dewulf et al., 2019). This would call attention to how the gains and losses of moving towards resilient farming systems are distributed, which is especially important considering that system-wide recognition of losses can alleviate resistance against necessary adaptive and transformative change (Frankowski et al., 2021). Recognising and alleviating the impact of transformations is already finding its way in EU policymaking. For instance, the Green Deal introduced the *Just Transition Mechanism,* which provides compensatory funding to ensure that the transformation towards a climate neutral economy happens in a fair way (European Commission, 2022B). The Commission might want to consider further expanding this mechanism to cover the agricultural sector as well. Furthermore, policymakers should be more concrete about which resilience capacity - robustness, adaptability, or

transformability - is targeted when formulating policy goals and instruments, ensuring that potential trade-offs between the resilience capacities are recognised and inconsistent resilience solutions are addressed. Explicitly addressing the trade-offs inherent to building resilience, both in debates as well as in policy design, can help to increase the legitimacy for the chosen pathways towards resilience.

It will be key to these resilience debates to ensure that people are aware that they are discussing resilience in different ways, even though there might be overlap or similarities between their understandings (Moser et al., 2019). Actors seem to open-up to other resilience perspectives and accept them more often when they are in a constructive dialog distinguishing the differences between their own and other's understandings of resilience (Moser et al., 2019). Such a step would also entail opening up the debate to a broader array of actors – niche actors and critical voices in the agricultural and adjacent domains – to counteract the relatively similar or dominant understandings of resilience (Dewulf et al., 2019; Hansen et al., 2020). Operational Groups funded by the RDPs, which bring together farmers, researchers, advisers, businesses, NGOs, and environmental and consumer interest groups, could function as a starting point to specifically discuss resilience for agriculture in Member States and their regions. Additionally, creating Horizon 2020 funded projects and thematic networks around resilience, also focussed on the political and social dimension of adaptation and transformation, can help to encourage the necessary (deep) learning and creativity for resilience thinking in the EU agricultural sector.

Of course, the upcoming formal CAP implementation offers an opportunity for follow-up research to not only reflect on the potential resilience effects of the CAP post-2020 and the NSPs but also to start gathering (longitudinal) data for analysing and assessing the CAP's performance regarding enhancing resilience. Such research data would already be relevant when looking ahead to the CAP's

mid-term evaluation in 2026. This dissertation has offered initial steps forward to understand and assess the link between policies and resilience, which is valuable knowledge to support the resilience of farming systems now and in the future.

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# Appendices

## Chapter 2 – Appendix I: Analysed documents ResAT analysis

### *CAP policy documents*

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*Other relevant national agricultural policy programmes*

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## Chapter 4 – Appendix I: Research protocol and code book

In our study, we aim to analyse whether and how the concept of resilience is framed in the CAP post-2020 reform process by EU policymakers and stakeholders. We therefore conduct a qualitative analysis of policy documents provided by EU institutions and stakeholders as part of the CAP post-2020 reform. These EU policy documents need to provide insight into whether the use of resilience is subject to different frames regarding its conceptualisation and how the CAP post-2020 and the Farm-to-Fork Strategy of the Green Deal could effectively support the resilience of farming systems. For our analysis, we follow a deductive-inductive approach to systematically identify and interpret the resilience-frames and associated preferred policy actions.

In this protocol, we elaborate upon the methods of our qualitative policy framing analysis by presenting the steps taken regarding data collection, how we selected policy documents for the analysis, and how we analysed the policy documents.

1. **Data collection and selection**
    a. We identified policy documents provided by EU institutions, as well as stakeholders that participated in the CAP's consultation round. The following three EU institutions are involved in the negotiations and **legislative procedure** regarding the future of the Common Agricultural Policy:
        i. **European Commission (EC)**: promotes the general interest of the EU by proposing and enforcing European legislation as well as by implementing policies – decisions of the European Parliament and the Council of the EU - and the EU budget. The EC submits its legislative proposals – informed by i.a. public consultation - for the CAP post-2020, defining the scope of the reform.
        ii. **European Parliament (EP)**: Directly elected EU body with legislative, supervisory, and budgetary responsibilities. The EP acts as co-legislator together with the Council and has the power to amend and approve the CAP legislative proposal. Specialised standing **committees** instruct legislative proposals within the EP.
        iii. **Council of the European Union**: Voice of EU member governments (i.e., national ministers from each Member State), adopting EU laws and coordinating EU policies. The Council acts as co-legislator together with the EP and has the power to amend and approve the CAP legislative proposals.
            iv. **Member States**: the national governments of the 27 EU Member (likely via national ministries with agriculture in their portfolio) are responsible for implementing the EU's CAP post-2020 in their country via National Strategic Plans (NSP).

Documents of the EC, EP, Council and Member States are therefore included in our research.

b. We are interested in how the identified EU institutions and stakeholders perceive the concept of resilience in relationship to the CAP post-2020 reform. The policy documents therefore need to give insight in: (1) the CAP post-2020 reform process (e.g., the legislative procedure and related negotiations) and the different opinions concerning the design of the future CAP; and (2) whether and how actors interpret and communication differently about resilience. The collected documents consist out:
   i. **European Commission's Communications [COM]** *[Source: EUR-LEX]*
      1. *i.e.,* **Preparatory acts***:* **proposed legislation** and other Commission communications to the Council and/or the other institutions (e.g. **legislative proposals**, **communications**, **reports**).
      2. **Commission Recommendations** to Member States as regards their Strategic Plan for the CAP and related Commission Staff Working Document per Member State.
   ii. **European Parliament's and The Council's documents** *[Source: EUR-LEX; European Parliament register of documents]*
      1. *Committee documents* of *comAGRI* (Agriculture and Rural Development) and *comENVI* (Environment, Public Health and Food Safety), including: **(draft) Reports**, **(draft) Opinions**, and **Amendments**
      2. *European Parliament Resolutions*: Present the EP's view and recommendations for EU-related issues.
      3. *Regulations of European Parliament and the Council*:

         ** For the documents of the EC and for the EP, we also closely look at the initiators.*
   iii. Starting off the CAP reform, the EC organised the CAP's public consultation round that allows stakeholders to submit their ideas, opinions, and recommendations for the CAP post-2020. We include the **CAP Public Consultation round documents** *[Source: online EUsurvey; official website European Commission]*
      1. Stakeholder position papers
         - Submitted position papers by individuals and organisations*
         - Summary document of the Stakeholder position papers
      2. Round tables on the green architecture of the CAP post-2020
      3. Stakeholder conference on the CAP post-2020 Consultation Results

4. Impact reports Outreach events / Citizens Dialogues in Member States

* Most of the collected stakeholder position papers were written in English. In case the papers were written in a different language, we first identified the language (e.g., French, German, Spanish), followed by searching for the translation of the key term 'resilience'/'resilient' in the appropriate language. In case of a match, the paragraph in which the key term was found got translated with the help of online translation software. The translation was added as a memo to the document in the coding software

**Edit: Data repair strategy**
When collecting the stakeholder position papers that served as input for the CAP public consultation round, we encountered a technical issue on the EUSurvey website that limited our access to all submitted stakeholder position papers. We therefore developed a data repair strategy for retrieving stakeholder position papers to further complement the data set. More information about the data repair strategy can be found in *Appendix II.*

iv. During the CAP post-2020 reform, some Member States drafted **a position paper** that presents the Member States' opinion about the future of the CAP post-2020. Also, Member states will implement the future CAP via **National Strategic Plans** (NSPs). These strategic plans will establish how each Member State will use the CAP instruments based on an analysis of their conditions and needs, and with the aim to achieve the specific objectives of the CAP. Member States are therefore given greater flexibility and role regarding how the future CAP might contribute to resilience. During the reform process, Member States are required to produce a SWOT analysis for how to best design their NSPs. We therefore include **Member States' position papers and/or preliminary NSP documents or related SWOT*** *[Source: official website national governments (e.g., website of the national ministry of agriculture); and Google**]:*

1. Available Member States' position papers regarding the CAP post-2020.
2. Available Member States' preliminary NSP documents or SWOT analysis for NSPs.

*In English or Dutch.

**Search terms: *Name Member State* AND "Common Agricultural Policy" AND "position paper" / "National Strategic Plan" during time period 2016-2021.

v. Whereas the EC already introduced the legal proposals of the CAP post-2020 before the arrival of the Farm-to-Fork Strategy (20 May 2020), the EC aims to align the CAP post-2020 with its ambitions presented in the Farm-to-Fork Strategy; thus, becoming part of the reform process. We therefore include **Farm-to-Fork Strategy documents** *[Source: EUR-LEX; official website European Commission]*
    1. European Commission's Communication regarding Farm-to-Fork.
    2. European Commission's official Publication regarding Farm-to-Fork.
    3. Commission Staff Working document on the link between the CAP reform and the Green Deal (incl. Farm-to-Fork Strategy).
    4. Commission Report on Sustainable Pesticides use.
    5. EP Committees Reports, Opinions, Amendments about Farm-to-Fork Strategy

c. As the policy documents of the EU institutions and the stakeholders need to provide insight into framing of the relationship between the CAP post-2020 and resilience, it is necessary that we ensure that the identified policy documents discuss the CAP post-2020 and its content, and elements of resilience. We therefore used the following selection criteria for the above-mentioned policy document types:
    i. **Time period**: Mid-2016 till beginning 2021. Corresponds to the CAP post-2020 reform round.
    ii. For **European Commission's**, **European Parliament's and the Council's** documents:
        1. Refer to "Common Agricultural Policy (CAP)" AND "Resilience" in the same document; subsequently, in the same paragraph.
        2. Pre-reading the documents to ensure that documents actually discuss the CAP's content or agri-food related issues by paying attention to the presence of agri-food terms, such as agriculture, food (production), farming, farmers, agri-environment(al), food chain, land use.
    iii. For **CAP Public Consultation round**
        1. Refer to the concept of "resilience", since all stakeholder input in the consultation round already concern the CAP.
    iv. For **National Member States CAP-related documents**
        1. Refer to the concept of "resilience", since Member States CAP-related documents already concern the CAP.
    v. For **Farm-to-Fork Strategy**
        1. Refer to "Common Agricultural Policy (CAP)" AND/OR "Resilience".

These steps led to the selection of the following documents in **Table 1:**

**Table 1**: *EU policy documents used for the analysis*

| Type | Number of documents | | Selection criteria | Source |
|---|---|---|---|---|
| | Total | Selected | | |
| European Commission's documents | | | | |
| European Commission's Communication and proposals | 66 | 8 | "Common Agricultural Policy" AND "Resilience" / "Resilient" (mentioned in same paragraph) | EUR-LEX |
| European Commission's recommendations regarding Member States' NSP | 28 | 28 | "Resilience" / "Resilient" | |
| European Parliament's and the Council's documents | | | | |
| AGRI & ENVI (Draft) Reports | 7 | 0 | "Common Agricultural Policy" AND "Resilience" / "Resilient" (mentioned in same paragraph). | EUR-LEX<br><br>Official European Parliament register of documents. |
| AGRI & ENVI (Draft) Opinions | 21 | 3 | | |
| AGRI & ENVI Amendments | 42 | 4 | | |
| Resolutions of EP | 21 | 6 | | |
| Regulation of EP and the Council | 7 | 0 | | |
| CAP Public Consultation round | | | | |
| Stakeholder position papers | 196 | 50 | "Resilience" / "Resilient" (or if needed an appropriate translation) | European Commission's official request form.<br><br>Partial access to the official CAP public consultation online survey's results. Followed by a data repair strategy.<br><br>Official website of the European Commission |
| Summary document stakeholder position papers | 2 | 1 | | |
| Round tables on the green architecture of the CAP post-2020 | 9 | 0 | | |
| Stakeholder conference on the CAP post-2020 Consultation Results (workshop summaries) | 6 | 5 | | |
| Impact reports Outreach events/Citizens' Dialogues in MS | 37 | 0 | | |
| National Member States CAP-related documents (e.g. national position papers; preliminary SWOT analyses NSP)*<br><br>** In English or Dutch.* | xx | 11 | "Resilience" / "Resilient" | Official websites of national governments<br><br>Google**<br><br>**Search terms: *[name Member State]* AND *"Common Agricultural Policy"* AND *"position paper"* / *"National Strategic Plan"* during time period 2016 – 2021. |
| Farm-to-Fork Strategy | 8 | 2 | "Common Agricultural Policy" AND "Resilience" / "Resilient" | EUR-LEX<br><br>Official website of the European Commission. |
| AGRI & ENVI (Draft) Reports | 1 | 1 | | |
| AGRI & ENVI Amendments | 8 | 4 | | |
| | | **Total: 123** | | |

2. **Analytical coding**
    a. **Deductive - Inductive approach**
        i. Deductive-inductive refers to that first we developed a code book with a set of a priori codes following from the literature (deductive) and that we developed codes that emerged from the text and/or adjusted the a priori codes based on information found in the policy documents when analysing the policy documents (inductive) (**Table 2**).
        ii. This requires an iterative process, meaning that the analysis and coding happens in multiple rounds. (1) Trial coding, to develop and test initial list of a priori codes; (2) First coding round, to identify and code the data most likely to help answer the research question; (3) Second coding, focused on ensuring consistency between coded segments and documents. The coding rounds helped to progressively sort the found data. The different rounds are described below.
        iii. Memos (i.e., reflective notes about what we have learned from the data) and preliminary results were documented during the analysis.
        iv. Coding happened at the level of paragraphs, meaning that the "lumping" and "splitting" of text occurs per paragraph to ensure that the context around the identified data remains visible during the analysis, offering a better understanding of the text. Exceptions are made for sections that explicitly mention to be about "resilience". In this case, every paragraph in the section is coded.
        v. Segments of data can be coded with more than one code.

    b. **Developing a priori codes and trial coding (Coding round 1)**
        i. We start by developing a code book with a set of *a priori codes*. The codes give some sense of direction but are not exhaustive. We followed the resilience framework and its guiding resilience questions of Meuwissen et al., (2019), which are developed for assessing the resilience of farming system, to structure our codes. The following resilience questions form the departing point for our analysis: *Resilience of what? Resilience to what? Resilience for what purpose? How to (not) enhance resilience?* These resilience questions help us to understand what resilience is sought and preferred by the different actors. In addition, we added the questions *What is resilience?* to code any definitions provided for the concept of resilience (i.e., is a definition or explanation given for resilience?); *Resilience for what reason?* to code any underlying moral values for a preferred policy instrument; and *Resilience according to whom?* to relate text fragments to specific actor groups. Moreover, previous studies of the authors supported development of the a priori codes. Each code has been given a "when-to-code"-definition, containing a description of when a text segment needs to be coded or not.

ii. When developing the code book with a priori codes, we also started a trial coding round. We selected 37 policy documents (+/- 25% of the total dataset) to test our a priori codes. We ensured that our test dataset was representative for the whole dataset by including policy documents of each actor type. During this step it became clear which codes were useful and which codes were missing; but also, which codes are too general and must be refined or partitioned in multiple codes, or which codes remain largely unused. The trail coding round already offered the opportunity for creating inductive codes. Based on the trial coding round, we started discussing coding decisions and updated our code book **(Table 2).**

c. **Coding round 2**

i. The second coding round focused on text reduction and retrieval. The a priori codes are used for the initial stage of coding to categorise the obtained data. As not all information in the policy documents is relevant for researching resilience frames, the second round is used to retrieve text fragments from the large quantality of raw data that contain information related to the proposed resilience questions. This meant that we were able to reduce the text for analysis for only segments that contain resilience-related information that contribute to understanding a frame's causal narrative of the issue. Moreover, the second coding round allowed us to categorise the text fragments based on the developed codes.

d. **Coding round 3**

i. Coding round 2 focused on identifying useful text segment within the large quantity of raw data. The focus of coding round 3 is to further refine the data coded during the previous coding round. By refining we mean ensuring consistency between similar coded segments within and between policy documents, adapt or correct coded segments, and ensure that no relevant text segments were missed. The second coding round can therefore be regarded as a check of the previous coding rounds by studying how text fragments are initially coded.

ii. Moreover, the third coding round is also used to already identify larger overarching themes within the coded data, i.e., what kind of larger categories can be recognised within the data, especially regarding identifying framing devices (key words, metaphors, verbal devices). This part of the third coding round can be seen as sorting the particular text fragments based on code frequency and relationships between codes. **See Table 4 for the developed codes in the code book.**

e. **Intercoding reliability**

All the authors were involved in developing the code book and establishing the a priori codes: the lead author initiated the development of the code book, while the co-authors were closely involved in providing feedback, discussing codes and coding decisions, and suggesting modifications before and during the test coding round. Furthermore, the results of the test coding were discussed within the research team, leading to some modifications of the code book to ensure a common interpretation of the codes. Based on the experience gained during the test coding round, the lead author continued to code all documents in the data set during coding round 2. During this coding round, the lead author reported back to the other authors on several moments to discuss complex cases or text segments that raised doubts as to the correct code. These discussions were used to find a common understanding of the codes between the authors and resolve any doubts. Finally, coding round 3 was also used to have a final check and correct the coding based on the discussions within the research team.

**3. Identifying frames**

After coding round 3, we started analysing our coded data to identify resilience frames within the documents. We therefore conducted a frame package analysis (e.g., Van Gorp, 2007; Van Gorp & van der Goot, 2012; Candel et al., 2014). Frame packages are a heuristic allowing for systematically disentangling causal narratives of different types of frames with regard to a specific (policy) problem. Frame packages consist of a set of logical organised devices that together constitute a certain frame (Van Gorp, 2007). The devices can be subdivided into *framing devices* and *reasoning devices*. Framing devices consist of linguistic elements, such key words or concepts, verbal devices and metaphors, that serve as indicators for a specific frame (Van Gorp & Van der Goot, 2012). Key words are words or concepts that are used frequently to particularise the central notion of the frame (e.g. 'volatility', 'extreme weather' and 'risk(s)'). Verbal devices include depictions to visualise the issue such as descriptions, examples, images and statistics, and expressions or catchphrases to make subjects relatable. Metaphors are implicit comparisons that link familiar and meaningful ideas to more abstract concepts to make them intelligible and strengthen policy arguments (e.g., 'a fair income support to help farmers to make a living') (Van Gorp. 2009; Van Hulst & Yanow, 2016; Namugumya et al., 2021).

Reasoning devices are explicit or implicit statements about a problem's definition, causal attribution, moral evaluation, and recommended solutions, forming a frame's causal narrative of the problem (Van Gorp, 2007; Van Gorp & Van der Goot, 2012). Regarding the reasoning devices, we were particularly interested in

how actors answer the resilience questions (see e.g., Meuwissen et al., 2019) in relation to the CAP and its instruments, forming the causal narrative underlying possible resilience frames. We therefore coded for the above-mentioned resilience questions. For identifying frames, we followed the next steps:

a. **Code frequency**
   i. At the end of coding round 3, we already had a look at the code frequency. We inventoried which codes per resilience question were used the most and the results were noted in **Table 2** (p.9).
   ii. The codes with the highest frequency were used as basis of inquiry for identifying resilience frames.

b. **ATLAS.ti data analysis tools**
   i. We made use of ATLAS.ti data analysis tools, especially to analyse for co-occurrence. Starting off with the codes with the highest frequency, we produced co-occurrence figures between the codes related to different resilience questions. We compared and recognised interlinkages between different codes of different categories, between codes and actors, and examined patterns in themes.
   ii. Importantly, we always checked the context of the coded text segments when finding links between codes of different categories and made notes about their relationship.

b. **Fill in Resilience-frame matrix**
   i. Based on the ATLAS.ti data analysis, the resilience-frame matrices were filled in (**Table 3, p.11**).
   ii. An important part of filling in the matrix was to pay attention within the coded text segments to key words/concepts, metaphors, verbal devices.

c. **Describing the identified frames**
   i. The resilience-frame matrices formed the basis for describing the identified frames. For the descriptions, we focused on the causal stories that actors tell regarding the link between the CAP and its instruments and the different resilience-questions. Which are presented in the Results-section of the paper.
   ii. After describing the causal narrative of the resilience-frames, we investigated which actors deployed the frames and added this information to the resilience-frame matrices and description of the frames.

**Table 2:** *Overview of the code frequency*

| **Resilience-questions** | **Most-used codes** (code frequency) |
|---|---|
| 0. **What is** resilience? | 00. What is RESILIENCE (9) |
| 1. Resilience **of what**? | 1. Farmers / farms (266)<br>2. Agricultural sector (whole) (198)<br>3. Food system (50)<br>4. Farming sub-sector (48)<br>5. Agri-food chains (45)<br>6. |
| 2. Resilience **to what**? | **Economic challenges**<br>1. Income (167)<br>2. Market & competition (85)<br>3. Vertical collaborations (44)<br>4. Economic challenges (general) (25)<br>5. Costs (20) / Fair prices & product prices (20)<br><br>**Social challenges**<br>1. Communicable diseases (COVID-19) (18)<br>2. Changing consumer demands (13)<br>3. Rural demographics (9)<br>4. Social challenges (general) (6)<br>5. Liveable rural areas (5)<br><br>**Environmental challenges**<br>1. Weather events & climate change (184)<br>2. Pest & diseases (60)<br>3. Biodiversity (25)<br>4. Environmental challenges (general) (23)<br>5. Climate change adaptation (15)<br><br>**Institutional challenges**<br>1. Existing policies & legislation (6)<br>2. Changing policies & legislation (2)<br>3. Institutional challenges (general) (1) / Differences in policies between regions (1) / Inflexibility of policies and regulations (1) / Monitoring (1) / Bureaucracy (1)<br>4. |
| 3. Resilience **for what purpose**? | **Private goods**<br>1. Food production (45)<br>2. Income (43)<br>3. Bio-based resource production (20)<br>4. Employment (13)<br>5. Renewable energy production (4)<br><br>**Public goods**<br>1. Food security (123)<br>2. Protecting / maintaining natural resources (60)<br>3. Climate change action (50)<br>4. Protecting / enhancing biodiversity (47) |

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| | 5. Maintaining rural areas (23) |
| 4. **How (not) to enhance** resilience? | **CAP Pillar I**<br>1. Direct payments (general) (64)<br>2. Internal convergence (10)<br>3. Basic payment scheme (7)<br>4. Crisis reserves measures (7)<br>5. Eco-schemes (CAP post-2020) (5)<br><br>**CAP Pillar II**<br>1. RDP (general) (18)<br>2. Support producer groups / organisations (6)<br>3. RDP other (6)<br>4. Knowledge transfer & advisory services (5)<br>5. Young farmers support (3)<br><br>**Other**<br>1. Risk management (general) (81)<br>2. Innovation/research (68)<br>3. Horizontal collaboration (producer groups/cooperations) (54)<br>4. Diversification agricultural practices (52)<br>5. Policy recommendation (general) (46)<br><br>**Policy principles**<br>1. Targeting (37)<br>2. Redistribution (21)<br>3. Vertical policy integration (19)<br>4. Heterogeneity (17)<br>5. Performance-based (11) |
| 5. Resilience **for what reason(s)**? | 1. Competitiveness (52)<br>2. Sustainability (general) (30)<br>3. Environmental sustainability (20)<br>4. Equity (fairness) (17)<br>5. Remuneration (14) |

**Table 3**: *Frame matrix used for identifying resilience-frames*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| ***[Name of frame]*** | ***What** is resilience?* | | | | |
| | *Resilience **of what**?* | | | | |
| | *Resilience **to what**?* | | | | |
| | *Resilience **for what purpose**?* | | | | |
| | ***How to (not) enhance** resilience?* | | | | |
| | *Resilience **for what reason(s)**?* | | | | |
| | *Resilience according **to whom**?* | | | | |

**Table 4:** *Code book for analysing resilience frames*

| Resilience Framework [Guiding resilience questions] | Codes | When to code: description and/or guiding key words |
|---|---|---|
| *0. What is resilience?* *[Definition]* | **00.** What is RESILIENCE | References to definitions, descriptions, understandings of the concept of resilience; what is meant with resilience? |
| *1. Of what?* *[Subject]* | **1.a** Farmers / farms | References to individual farmers or farming businesses. |
| | **1.b** Farmer households | References to farmer households or farmer families. |
| | **1.c** Farming system | References to local network of comparable types of farms and other actors that interact formally and informally and are responsible for private and public goods in a specific regional context. Also includes references to farming communities. |
| | **1.d** Farming sub-sector | References to parts of the agricultural sector specialised and/or engaged in a specific type of farming (e.g. arable farming, livestock farming, horticulture). Excludes references to forestry. |
| | **1.e** Agricultural sector as a whole | References to the whole economic sector that focuses on the production of food and other bio-based resources, includes all individual farm sectors. Includes references to farming sector as a whole. |
| | **1.f** Agri-food chain(s) & sector(s) | References to the (food) supply chain focused on the linked events in the agricultural production of food, consisting of food production, processing, trading, distribution, and consumption, especially the interlinkages between them. Includes references to agri-food sector / industry (the sector or industry centred on the food supply chain). |
| | **1.g** Food systems | References to the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal food products |
| | **1.h** Agro-ecosystems (excl. forests) | References to natural ecosystems, modified for production of food and other bio-based products, within agricultural areas. Includes references to complex interactions between nature / ecosystems and social actors and institutions within a certain (agricultural) area. Excluding references to forests ecosystems (forest plantations) |

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| | **1.i** Member State(s) | References to individual or multiple countries that are member of the European Union. |
| | **1.j** European Union | References to the European Union and/or its institutions. This includes references to all the union's 27 member states and references to 'Europe', 'European'. |
| | **1.k** Rural regions | References to (European) rural regions, areas, or landscapes outside urban areas (e.g. the countryside, farmland or similar terms) |
| | **1.l** Consumers | References to consumers, i.e. persons who purchases goods and services provided by agricultural and/or food sector. |
| | **1.m** Animals | References to (farm) animals, animal husbandry, livestock, domesticated animals raised in an agricultural setting to produce labour and commodities (e.g. meat, eggs, dairy, leather, fur wool etc.) |
| | **1.n** Non-EU developed countries | References to countries that are not part of the European Union, which have advanced economies. Includes references such as "Global North", "more developed countries (MDC)", "more economically developed countries (MEDC)" and other synonyms. |
| | **1.o** Developing countries | References to countries that are not part of the European Union, which have emerging and developing economies. Includes references such as "Global South", "Low-income countries (LICs)", "Middle-income countries (MICs)" and other synonyms. |
| | **1.p** Agricultural practices | References to agricultural practices, i.e. ways and methods used in agriculture to facilitate farming and principles applied for farm production processes. Includes references to agricultural production and food production (the focus is on the activity or practice of producing food). |
| | **1.q** Public health | References the health of the population (the public, community), especially as the subject of government regulation and support. |
| | **1.r** Urban areas | References to urban areas, i.e. cities, non-rural areas. |
| | **1.s** Plants | References to (arable) plants (or plant species), or part thereof, grown, maintained, or produced for commercial purposes (incl. growing maintaining or producing plants for sale or trade, research or experimentation). |
| | **1.t** Farming community | References to farming communities or communities located in rural areas or rural populations. |
| | **1.v** Forests & forestry | References to forest systems and/or ecosystems, a dynamic or complex system of flora and fauna, where trees are a key component of the system. Includes references to forestry |

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| | | or forest sector (silviculture), i.e. creating, managing, using, conserving of forests and their resources. |
| | **1.v** Others | References to other actors/systems/etc. that do not fit the previous codes. |
| 2. *To what?*<br><br>*[Problem definition and causes]*<br><br>*Coded problems can relate to one or more categories (economic, social, environmental and institutional). E.g. Conversion of agricultural practices can both bring economic and environmental challenges/opportunities* | 2.a Economic challenges<br>*Situations that cause difficulties (or opportunities) mainly related to finances, money, trade, industries (private goods).* | |
| | **2.a.1** Economic challenges general | General category for references to challenges that cause difficulties related to finances, money, trade, industries (private goods). **Use when text does not become specific enough to determine the precise economic challenge**. |
| | **2.a.2** Income | Challenges related to generating income through the farming businesses and ensuring that the farming business is viable. Also, includes references to income generated via additional jobs (or job family members) that flow back into the farming businesses. |
| | **2.a.3** Fair prices and product prices | Challenges related to receiving (fair) prices for received good, i.e. prices that remunerate for the costs made to produce the product. Fair prices are necessary for achieving a living income and maintain the farming business. Includes references to 'true pricing' (the market price plus the social and environmental costs of a product). But also includes fair pricing for (food) products or references to added value (increasing received prices). |
| | **2.a.4** Costs | Challenges related to (high or rising) costs, e.g. high or rising prices of inputs (e.g. seeds, fertilizers, pesticides, equipment, fuels). |
| | **2.a.5** Market & competition | Challenges related to the agricultural market, such as fluctuating market prices, unpredictability of markets, (un)fair competition. Also, challenges related to 'keeping' up with (global) economic developments. Includes challenges related to trade (import and/ or export) and trading markets. |
| | **2.a.6** Financial challenges | Challenges related to (financial) indebtedness due to borrowed funds or high investments, but also challenges related to (finding) appropriate investments, loans, |
| | **2.a.7** Land acquisition and land prices | Challenges related to the acquisition of land for farming practices, and the prices of acquiring new land (agri-land markets). |
| | **2.a.8** Farm succession | Challenges related to farm succession (e.g. finding successor, financing of succession, inheritance tax). Includes challenges related the inclusion of family members in the farming business. |

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| | **2.a.9** Horizontal collaborations relations | Challenges related to collaborations between actors at the same level or stage in the food supply chain, for instance, collaboration to achieve common goals and/or greater ease of work (e.g. farmer-farmer collaboration; farmers cooperatives). This also includes challenges related to trust. |
| | **2.a.10** Vertical collaborations | Challenges related to collaborations between actors from different levels or stages in the food supply chain. For instance, collaborations by sharing their resources, information, responsibilities to serve relatively similar end costumers (e.g. farmers that made supply agreements with food processing industry. Farmer – processing industry collaborations). But also, issues related to the power (im)balance between actors within the food supply chain. |
| | **2.a.11** Innovation | Challenges related to experimentation, innovation, new technology and techniques. Also, the challenge of keeping up with (new) technological evolutions. Includes references to issues regarding investments to promote and use experimentation and innovative practices. |
| | **2.a.12** Supply of skilled labour | Challenges related to the supply and/or finding workers / agricultural employees who have specialised training or learned skill sets to perform work. These workers can be both so-called blue-collar or white-collar workers, varying in levels of training or education (for example, electricians, heavy machinery workers, administrators, financial technicians). **Use together with 2.a.13 Supply of unskilled labour when text does not become specific enough to determine the type of labour or when talking about labour in general.** |
| | **2.a.13** Supply of unskilled labour | Challenges to the supply and/or finding workers / agricultural employees who not do not have specialised training or learned skill sets to perform work. This mostly concerns labour that consist out heavy work tasks. Includes references to (finding) seasonal workers. **Use together with 2.a.12 Supply of skilled labour when text does not become specific enough to determine the type of labour or when talking about labour in general.** |
| | 2.b Social challenges<br>*Situations that cause difficulties (or opportunities) mainly related to societal change, social conditions and personal lives, e.g. health, demographic change, well-being and quality of life, changing consumer demands.* | |
| | **2.b.1** Social challenges general | General category for references to challenges that cause difficulties related to societal change, social conditions, and personal lives. **Use when text does not become specific enough to determine the precise social challenge.** |
| | **2.b.2** Farmers' workload | Challenges related to the (increasing) workload of farmers, both physical and physiological. |

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| | | Related are the (experienced) increasing administrative tasks (e.g. related to applying for funds, taxes etc. – 'paperwork').<br>Related are issues such as balancing family life with the farming business (e.g. a farmer can feel that he/she is placing a burden on their family). |
| | **2.b.3** Farmers' health | Challenges related to the health and well-being of farmers. |
| | **2.b.4** Rural demographics | Challenges related to demographic changes within agricultural and rural areas. Includes references to generational renewal, rural (out)migration, 'greying' of farming population. |
| | **2.b.5** Liveable rural areas | Challenges related to rural local development and the liveability of rural areas. Includes references to issues related to (un)employment, poverty, growth, social inclusion, and community building in rural areas. Also, includes references to issues related to the availability of an appropriate mix of private, public, and voluntary services in rural areas (e.g. housing, supermarkets and shops, schools, health care service, broadband internet connection, infrastructure). |
| | **2.b.6** Society – agriculture relationships | Challenges related to (changing) interrelationships between society (the public) and agriculture (farmers, agricultural primary producers). Includes challenges related to the interrelationship between urban areas (cities) and rural areas (farmland). Includes references to issues such as disconnectedness between the population of urban and rural areas, growing equality between the two areas and their populations – 'the gap between city and country'. Also, includes references to relationship between farmers (rural) and consumers (urban). |
| | **2.b.7** Changing image of and societal appreciation for agriculture | Challenges related to a changing image of and appreciation for the farming system, or agriculture in general. This also includes challenges related to the trust of non-farming system actors in the farming system; and questioning the legitimacy of farming system actors / license to produce. |
| | **2.b.8** Changing consumer demands | Challenges related to changes in the demands of consumers related to food and food production. For instance, change in dietary preferences (e.g. less or no consumption of meat/animal products) or preferences for local food or seasonal food. |
| | **2.b.9** Environmental and climate concerns | Challenges related to (increasing) farmers' and/or societal concerns related to environmental and climate issues caused by or affecting agriculture. |
| | **2.b.10** Lack of agricultural/food-related knowledge | Challenges related to the (experienced) absence of agricultural/food-related and practical knowledge with farming system actors and non-farming system actors (e.g. policymakers, consumers). |

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| | **2.b.11** Food security | Challenges related to (the responsibility of agriculture to ensure) food availability, i.e. having reliable access to sufficient quantity of affordable food, individuals' ability to access food. |
| | **2.b.12** Food safety & quality | Challenges related to the adequacy and acceptability of food products, ensuring that food products are safe for consumption (handling, storing, preparing) and keep enough nutrients for healthy consumption. Also, includes references to challenges related to healthy diets and food patterns, but also food-borne diseases. |
| | **2.b.13** Communicable diseases (incl. COVID-19) | Challenges related to the occurrence of disease cases more than normal expectancy caused by an infection transmitted through animal-to-person contact (zoonoses) person-to-person contact or contact with a certain environment. Includes references to terms such as epidemic, endemic, and pandemic (epidemic spread over multiple countries or continents).<br><br>Includes references to the **COVID-19 (Corona)** outbreak / pandemic and its impact on agriculture, food chains, food system. |
| | 2.c Environmental challenges<br>Situations that cause difficulties (or opportunities) mainly related to the Earth's natural systems, at global to local scale, natural resources, ecosystems, and qualities and characteristics of biophysical environment (locations, places, areas etc.) (public goods). | |
| | **2.c.1** Environmental challenges in general | General category for references to challenges that cause difficulties (or opportunities) related to the Earth's natural systems, at global to local scale, natural resources, ecosystems, and qualities and characteristics of biophysical environment (locations, places, areas etc.) (public goods). Includes references to sustainability issues in general. **Use when text does not become specific enough to determine the precise environmental challenge.** |
| | **2.c.2** Weather events and changing climates | Challenges related to (extreme) weather events (e.g. heavy rainfall, drought), or changing climates. Also includes references to natural hazards related to changing weather patterns or climates (fires, floods). |
| | **2.c.3** Climate change mitigation | Challenges related to tackling and minimising farmers' and/or agriculture's contributions to climate change through e.g. greenhouse gas emissions (GHG). Includes references to reducing the climate impact of farming activities |
| | **2.c.4** Climate change adaptation | Challenges related to adapting farming activities to changing weather and climate. |
| | **2.c.5** Natural resources in general | Challenges related to agriculture's dependence as well as impact on natural resources or ecosystem services (e.g. water, soil, air). Includes issues related to the sustainable |

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| | | development and efficient management of these natural resources or ecosystem services, as well as environmental pollution, emissions, and degradation. **Use if the natural sources are not explicitly identified or if the natural sources are mentioned together.** |
| | **2.c.6** Soil management | Challenges related to sustainable development and efficient management of soils for agricultural practices; as well as references to soil contamination and degradation of soils caused by agriculture. |
| | **2.c.7** Water management | Challenges related to sustainable development and efficient management of water for agricultural practices, as well as references to water pollution and degradation of water sources. |
| | **2.c.8** Air pollution | Challenges related to the presence in or introduction into the air of substances which have harmful or poisonous effects caused by agricultural practices. Includes challenges related to management of air pollution to eliminate or reduce pollutants in the air. |
| | **2.c.9** Biodiversity | Challenges related to the loss, protection, and enhancement of biodiversity (variety in species, genetics/genes and ecosystems). |
| | **2.c.10** Rural landscapes and areas | Challenges related to the conservation and management of farmland, farmed landscapes and its features, rural areas, and their elements. |
| | **2.c.11** Animal health and welfare | Challenges related to the health and living conditions of producing animals (i.e. comfortable, well nourished, safe, able to express innate behaviour, no suffering/sickness, health treatments). Includes issues related to antimicrobial resistance (AMR) in animal husbandry. |
| | **2.c.12** (Food) loss and waste | Challenges related to the decrease in the quantity or quality of food resulting from decisions and actions by food chain actors. It includes food that is disposed of along the food supply chain and does not re-enter in any other form into the chain (e.g. feed or seed). |
| | **2.c.13** Pesticide use | Challenges related to the use of pesticides to control various weeds, pests, insect infestation and diseases that are harmful to cultivated plants or to animals. Also, references to the impacts of pesticides use in agriculture (benefits and negative effects). Includes references to (more) sustainable use of pesticides or even (gradual) abolishment of pesticides. |
| | **2.c.14** Nitrate use | Challenges related to the use of both inorganic nitrogen and phosphorus fertilisers in agriculture. For instance, overuse of nitrate, high concentrations – high levels of nitrate, |

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| | | nitrate pollution and emissions into the (ground) water or air (e.g. via runoff, leaching) and its impact on human health and ecosystems. |
| | **2.c.15** Pest & diseases | Challenges related to the occurrence of animal and plant diseases or pests. Diseases and pests may impair the productivity of or damage plants; or may affect the health of animals. |
| | 2.d Institutional challenges<br>Situations that cause difficulties (or opportunities) mainly related to institutional areas, e.g. formal rules, policies, organisational arrangements, informal norms, or shared understandings that prescribe and constrain actors' interactions, both generated by state and non-state actors. | |
| | **2.d.1** Institutional challenges in general | General category for references to challenges (or opportunities) mainly related to institutional areas, e.g. formal rules, policies, organisational arrangements, informal norms, or shared understandings that prescribe and constrain actors' interactions, both generated by state and non-state actors. **Use when text does not become specific enough to determine the precise social challenge.** |
| | **2.d.2** Existing policies and legislation | Challenges related to already implemented policies and legislations. |
| | **2.d.3** Changing policies and legislations | Challenges related to unclarity about policies, to the changing of policies – both too fast as too slow changing policies – and increasing legislations. |
| | **2.d.4** Differences in policies between administrative regions | Challenges related to (experienced) differences in policies, legislations, governmental decisions between different regions within or between countries, or differences between EU Member States. |
| | **2.d.5** Complexity of policies and regulations | Challenges related to the (lack of) coherence, consistency, congruence between policies and/or regulations. |
| | **2.d.6** Monitoring | Challenges related to (lack of) monitoring the effects and impacts of policies instruments and regulations and achievements of objectives. Also, references to monitor the effects of (alternative) implemented measures (e.g. farm management, land-use and land cover, environmental parameters). Includes references to indicators, parameters, objectives. As well includes challenges related to the inability to monitor or lack of (proper) monitoring of outcomes. |
| | **2.d.7** Lobby | Challenges related to (the influence of) lobby groups and lobby activities, i.e. actions aimed at influencing the actions, policies, or decisions of businesses or governmental actors. This includes references to own lobbying as well as lobbying of others. |

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| | **2.d.8** Bureaucracy | Challenges related to (excessive and complicate) administrative procedures or the implementation of policies and legislation. Also, includes references to understandability, accessibility, red tape, (un)transparency, high administrative costs. |
| | **2.d.9** Inflexibility of policies and regulations | Challenges related to overly strict and means-oriented policies and regulations. Policies and regulations that do not offer room for context-sensitive design - policies or regulations that not fit the current situation due to differences in regional, sector-specific situations. Little room for tailor-made responses. |
| 3. *For what purpose?*<br><br>*[Functions]* | 3.a Private goods | |
| | **3.a.1** Food production | References to the use of cultivated plants or animals to produce products for consumption. |
| | **3.a.2** Bio-based resource production | References to the use of bio-based materials of plants, and to a lesser extent of animal origin, for non-food products, including fuels and fibres. |
| | **3.a.3** Renewable energy production | References to the production of energy through other means than biomass; includes renewable sources such as solar and wind power. |
| | **3.a.4** Income | References to generating income for farmers and receiving (fair) prices for received goods. |
| | **3.a.5** Employment | References to offering and maintaining safe and healthy workspaces and proper work environment for people (in rural areas) to generate income. |
| | 3.b Public goods | |
| | **3.b.1** Protecting and maintaining natural resources | References to the management of natural resources (e.g. water, air, soil) and ensuring the quality of these resources. Think of farmers' / agricultural sectors' responsibilities regarding environmental pollution, or emissions, or the impact of agriculture on (the quality) natural resources. Includes references to protecting and maintaining ecosystem services. |
| | **3.b.2** Maintaining rural areas | References to the management and development of rural areas or regions (areas outside urban areas - 'the countryside') and its communities, as well as the regional / farmed landscapes and its elements. |
| | **3.b.3** Protecting and / or enhancing biodiversity | References to the protection and enhancement of biodiversity (variety in species, genetics/genes and ecosystems). Includes agricultural activities that preserve farmland-dependent habitats and species. |
| | **3.b.4** Ensuring animal health and welfare | References to ensuring food producing animals are healthy and can cope with the conditions in which they live (i.e. comfortable, well nourished, safe, able to express innate |

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| | | behaviour, no suffering/sickness). Includes the agriculture's responsibility in preventing antimicrobial resistance (AMR). |
| | **3.b.5** Climate change action | References to activities or responsibilities of agriculture to do something regarding the impact of agricultural practices on the climate. Includes references to climate change mitigation and adaptation, reducing greenhouse gas emissions. |
| | **3.b.6** Food security | References to ensuring (or the responsibility of agriculture to ensure) food availability, i.e. having reliable access to sufficient quantity of affordable food, individuals' ability to access food. |
| | **3.b.7** Recreation & tourism | References to activities related to tourism, recreation, leisure in agricultural sector or rural areas. |
| | **3.b.8** Food safety & quality | References to ensuring the adequacy and acceptability of food products, ensuring that food products are safe for consumption (handling, storing, preparing) and keep enough nutrients for healthy consumption. Also, includes references to challenges related to healthy diets and food patterns, but also food-borne diseases. |
| | **3.b.9** Public health | References to ensuring the health of the population (the public, community), |
| *4. How (not) to enhance?*<br><br>*[Recommended policy instruments]*<br><br>*4.a/b/c: Identify the instrument and code for the type of instruments (e.g. 4.a.1).*<br><br>*4.d: Identify per instrument the proposed policy change (e.g. 4.d.1).*<br><br>*--> Each policy instrument will be assigned two codes that indicate the type of* | CAP-related policy instruments | |
| | 4.a CAP Pillar 1 | |
| | **4.a.1** Basic payment scheme | Basic income support granted to farmers based on the number of hectares farmed. Includes references to (decoupled) direct payments, area-based payments, hectare-based payments. |
| | **4.a.2** Cross-compliance | To receive EU income support, farmers must respect a set of basic rules. Rules farmers are expected to comply with include (i) statutory management requirements, and (ii) good agricultural and environmental conditions, these apply only to farmers receiving support under the CAP. Non-compliance may lead to reduction of EU support or penalties. |
| | **4.a.3** 'Green' direct payments | Complementary income support for agricultural practices beneficial for climate and environment. Includes references to 'greening measures, 'green direct payments', 'greening activities' |
| | **4.a.4** New 'Green Architecture' (CAP post-2020) | A new architecture for greening, which covers both pillars and consists of three components (i) enhanced conditionality; (ii) eco-scheme; and (iii) agri-environment, climate scheme and other management commitments (Pillar II). |

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| *instrument and the proposed policy change.* | | **Use this code when the 'Green Architecture' in general is mentioned; or when not sure, or not clear which aspect of the 'Green Architecture' is precisely mentioned.** |
| | **4.a.5** Enhanced conditionality (CAP post-2020) | New cross-compliance conditions and standards with respect to climate and environment, public, animal and plant health and animal welfare. Also, standards for good agriculture and environmental condition of the land. The conditionalities include the greening requirements of CAP Reform 2013 |
| | **4.a.6** Eco-schemes (CAP post-2020) | Voluntary scheme to support and incentivise farmers to observe agricultural practices beneficial for the climate and the environment. Member States can develop the eco-schemes. Eco-schemes payments can be granted as additional top-up to basic income support or payments compensating beneficiaries for all or part of costs incurred, and income foregone. Eco-schemes replace the obligatory 'Greening' measures in Pillar I. |
| | **4.a.7** Young farmer payments | Pillar I of the CAP – Complementary income support for young farmers. |
| | **4.a.8** Coupled support | The link between the receipt of a direct payment and the production of a specific product. |
| | **4.a.9** Product quotas | Caps set on the number of products a farmer could sell per year without paying levies to bring raising production under control. |
| | **4.a.10** Producer organisations and inter-branch organisation | Measures and interventions aimed at improving farmers' negotiation position in the food chain through establishing and improving organisations / collectives. |
| | **4.a.11** Crisis reserve | Crisis reserve fund to support the agricultural sector when crises affect production and/or distribution. It is set up each year through reductions to direct payments under the financial discipline mechanism. The reserve can be used to finance exceptional measures to counteract market disruptions affecting production or distribution. |
| | **4.a.12** Public intervention | Market measure aimed to stabilise markets and prevent market crisis from escalating. Public intervention and private storage are where products are purchased and stored by EU countries governments or their agencies until being sold back onto the market later. It aims to prevent prices from dropping to unsustainably low levels. |
| | **4.a.13** CAP Pillar I (general) | CAP Pillar I is focused on providing financial support to farmers in the EU and consist of income support measures and market measures. **Use this code when CAP Pillar I in** |

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| | | **general is mentioned; or when not sure, or not clear which aspect of CAP Pillar I is precisely mentioned.** |
| | **4.a.14** Direct payments (general) | The CAP Direct Payments are the main instruments of the policy for offering income support for farmers. **Use this code when Direct Payments in general is mentioned; or when not sure, or not clear which specific Direct payments instruments is mentioned.** |
| | **4.a.15** Internal convergence | Measures with the aim of progressively adjusting / equalising income support payments per hectare within each Member State or region. |
| | **4.a.16** External convergence | Measures with the aim of progressively adjusting income support payments per hectare in each country, either upwards or downwards to bring them closer to the EU average level. |
| | 4.b CAP Pillar II | |
| | **4.b.1** Rural Development Programme (RDP) in general (CAP) | National and regional programmes co-funded by the EU that address specific needs and challenges facing the rural area of the farming system. **Use this code when the RDP in general is mentioned; or when not sure, or not clear which aspect of CAP Pillar II – Rural Development (see following codes) is precisely mentioned.** |
| | **4.b.2** Knowledge transfer & advisory services (Pillar II) | Measures that make training and skills acquisition possible. Also, support for demonstrations and information actions. Moreover, includes support through advisory services. |
| | **4.b.3** Investments in physical assets (Pillar II) | Support for investments in physical assets, such as agricultural holdings, the processing/marketing and/or development of agricultural products, infrastructure (related to development, modernisation, or adaptation of agriculture), non-productive investments linked to agri-environment-climate objectives. |
| | **4.b.4** Young farmers support (Pillar II) | Measures that support young farmers, such as business start-up grants (up to €70 000), general investments in physical assets, training, and advisory services. |
| | **4.b.5** Small farmers support (Pillar II) | Business start-up aid up to €15.000 for small farms. |
| | **4.b.6** Basic services and village revitalisation (Pillar II) | Investment in rural areas to secure basic services and to improve liveability of rural villages (areas) |

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| | **4.b.7** Support non-agricultural activities (Pillar II) | Business start-up aid for non-agricultural activities (e.g. micro- and small businesses) in rural areas. |
| | **4.b.8** Support for producer groups / organisations (Pillar II) | Support for setting up groups and/or organisations based on a business plan and limited to entities defined as SMEs. |
| | **4.b.9** Agri-environment – climate payments (Pillar II) | Payments for agri-environmental-climate commitments and support for conservation and sustainable use and development of genetic resources in agriculture. References to AECMs (Agri-Environmental Climate Measures). |
| | **4.b.10** Support for organic farming (Pillar II) | Support (i.e. payments) to convert to or maintain organic farming practices and methods. |
| | **4.b.11** Co-operation (Pillar II) | Support measures for technological, environmental, and commercial cooperation (e.g. pilot projects, joint environmental schemes, development of short supply chains and local markets). |
| | **4.b.12** LEADER and LEADER plus (Pillar II) | Support for rural development project initiated at the local level aimed to revitalise the rural areas and to create economic benefits. It encourages experiments in rural development; supports cooperation between rural areas; and to create networks between rural areas for knowledge sharing. |
| | **4.b.13** EIP-AGRI | The agricultural European Innovation Partnership (EIP-AGRI) for fostering competitive and sustainable farming and forestry. Enables and supports knowledge exchange and innovation within agriculture by connecting people from science and practice. The focus is to initiate collaboration between research and innovation partners by pooling of expertise and resources brought together by private and public sectors at EU, national and regional level. |
| | **4.b.14** RDP other | Use to code other CAP Pillar II instruments that did not fit any of the above instrument codes. |

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| | 4.c Other policies or regulations<br>*Policies or regulations that do not necessarily fit the previous codes, Pillars, or are none-CAP related.*<br>*Also includes more general categories and strategies* | |
| | **4.c.1** Areas Natural Constraints Schemes | Income support schemes for areas facing significant natural constraints (areas that experience specific conditions that make farming difficult) to prevent this land from being abandoned. The Areas Natural Constraints payments can be funded via Pillar I or Pillar II (the code is therefore not located under the header 'CAP Pillar I' or 'CAP Pillar II'). |
| | **4.c.2** Legislation on plant protection products | Legislation on the use of plant protection products, that are used to protect plants against pests or diseases, based on their safety for humans, animals, and environment (e.g. setting maximum residue levels of plant protection products in or on food or feed). |
| | **4.c.3** Weather risk management | Risk management to address potential (financial) losses caused by unusual / extreme weather events (e.g. weather insurances). |
| | **4.c.4** Legislation on animal health and welfare | Legislation aimed at ensuring food producing animals are healthy and are able to cope with the conditions in which they live (i.e. comfortable, well nourished, safe, able to express innate behaviour, no suffering/sickness). |
| | **4.c.5** Legislation on labour conditions | Legislation on related to safe and healthy labour conditions to ensure a proper work environment. |
| | **4.c.6** Social security | Policies aimed to guarantee income and care for people who are no longer (temporarily or permanently) capable to generate income themselves. |
| | **4.c.7** Legislation on water quality | Legislation aimed at governing the release of pollutants into water resources to reduce / prevent water pollution and to ensure high water quality. E.g. **EU Water Framework Directive**. It, therefore, includes the **Nitrates Directive** that aims to protect water quality across Europe by preventing nitrates from agricultural sources (e.g. manure and inorganic fertilisers) polluting ground and surface waters. |
| | **4.c.8** Legislation on air quality | Legislation aimed at governing the emission of air pollutants into the atmosphere to reduce / prevent air pollution and to ensure high air quality. For example, includes legislation on preventing and reducing harmful ammonia emissions in the air from manure and inorganic fertilisers. |

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| | **4.c.9** Legislation on food safety and quality | Legislation aimed to ensure that food intended for human consumption will not cause harm or to prevent food borne illness (hygiene) during production, processing, distribution and placing on the market. |
| | **4.c.10** Quality schemes and labels | Policy focused on protecting the names of specific products to promote their unique characteristics, linked to their geographical origin as well as traditional production (e.g. geographical indications (GIs), traditional speciality guaranteed (TSG)). |
| | **4.c.11** Legislation on biodiversity and habitat protection | Legislation focused on protection, conservation and enhancement of nature, biodiversity, and habitats. The legislations aimed at ensuring the conservation of a wide range of animals and plant species (rare, threatened or endemic) and reverse degradation of ecosystems (e.g. Birds Directive, Habitats Directive, Natura2000 network of protected areas, Invasive Alien Species Regulation, Zoos Directive etc.). |
| | **4.c.12** Trade deals | References to (international) trade deals, agreements, treaties that establish conditions for import and export of (agricultural) products. |
| | **4.c.13** Income support measures | References to measures that provide an adequate income to farmers via different benefit schemes. **Use this code when income support measures are mentioned in a general sense or when it is not clear which CAP-related instrument is addressed.** |
| | **4.c.14** Market intervention measures | References to measures or interventions used to stabilise agricultural markets and to prevent large market changes or market crises from escalating. Measures or interventions used if normal market forces 'fail' (e.g. dropping prices due to (temporarily) oversupply, drop in demand due to health scare). **Use this code when market intervention measures are mentioned in a general sense or when it is not clear which CAP-related instrument is addressed.** |
| | **4.c.15** Diversification agri-practices | References to introducing new agricultural activities (agricultural functions to the system) in place or in addition to the traditional / main farming pursuit (e.g. introducing new crops, alternative cultivation plans). This also includes differentiating from other producers and/or exploring agricultural niche markets. |
| | **4.c.16** Conversion alternative methods | References to conversion of farming practices towards alternatives to conventional farming methods. Alternatives consist out e.g. organic farming, permaculture or by applying agro-ecological farming practices. |

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| | **4.c.17** Diversification non-agri-practices | References to introducing new non-agricultural activities (non-agricultural functions to the system) in place or in addition to the traditional / main farming pursuit (e.g. starting to generate renewable energy, or starting bed & breakfast) (but also processing and selling (farm) products on the farm). |
| | **4.c.18** Upscaling & intensification | References to increasing the growth of (farming) business or sector or increasing productions by, for instance, buying land, using new machinery, changing cultivation plans. |
| | **4.c.19** Downscaling & extensification | References to decreasing size of farming businesses and/or sectors or decreasing the production by, for instance, selling land, introducing less extensive cultivation plans. |
| | **4.c.20** Globalisation | References to further integration of agricultural and food markets worldwide. Includes references to globalising or creating international food chains. |
| | **4.c.21** Localisation | References to disintegration of agricultural and food markets worldwide but focusing on local agricultural markets or specific target markets. Includes references to localising or creating smaller or local food chains. |
| | **4.c.22** Circularity | References to reducing and keeping residuals of agricultural biomass and food processing within the agricultural and food system as resources. The aim is to closing cycles in the system. Includes references to (creating) circular agricultural and/or food systems, closed-loop agriculture etc. |
| | **4.c.23** The CAP (General) | **Use this code when the CAP in general is mentioned; or when not sure, or not clear which aspect of CAP Pillar I or Pillar II is precisely mentioned.** |
| | **4.c.24** Horizontal collaboration | References to measures / investments / support for increasing horizontal collaboration, i.e. collaborations between actors at the same level or stage in the food supply chain, for instance, collaboration to achieve common goals and/or greater ease of work (e.g. farmer-farmer collaboration; farmers cooperatives; producer groups). |
| | **4.c.25** Sustainability schemes | References to general support schemes for sustainable practices or agri-environmental activities. |
| | **4.c.26** Innovation | References to measures focused on innovations, research, experimentation, new technology and techniques. Includes references to investments to promote and use experimentation and innovative practices. |
| | **4.c.27** Risk management (general) | References to measures focused on identifying, assessing, controlling, or mitigating risks and crisis. Funds or instruments focused on coping with adversities or treats with as goal to |

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| | | address or compensate for potential (financial) losses (e.g. insurances, contracts, risk monitoring, risk information provision). |
| | **4.c.28** Market transparency measures | References to measures focused on increasing transparency of agricultural markets, i.e. the extent to which the details of market activity are made public. |
| | **4.c.29** Education/learning/training | References to measures focused on providing education, learning activities or trainings (general); measures that are generally focused on increasing and/or sharing knowledge and skills, knowledge transfer. |
| | **4.c.30** Recovery measures | References to measures or investments focused on recovering from a crisis / shock / stress. Includes emergency measures and funds. |
| | **4.c.31** Soil and land management | References to measures / investments / polices focused on (changing) the management of soils and/or agricultural land or rural land. |
| | **4.c.32** Digitalisation | References to measures / investments / policies focused on digitalisation and connectivity of farms, the agricultural sector, rural areas. For example, providing broadband connection (or 3/4/5G), digital public services. |
| | **4.c.33** Vertical collaboration | References to measures / investments / support for increasing vertical collaboration, i.e. collaborations between actors from different levels or stages in the food supply chain. For instance, collaborations by sharing their resources, information, responsibilities to serve relatively similar end costumers (e.g. farmers that made supply agreements with food processing industry. Farmer – processing industry collaborations). But also support measures to deal with power (im)balances between actors within the food supply chain. |
| | **4.c.34** Water management | References to measures / investments / polices focused on (changing) the management of water for agricultural practices, as well as measures related for dealing with water pollution and/or degradation of water sources. |

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| | 4.d Recommended change<br>*Each identified policy instrument (section 4.a, 4.b or 4.c) is assigned one of the following codes that indicates the (recommended) change in policy.* | |
| | **4.d.1** Positive (solution) | The current policy instruments functions well in its current form and no departure from the policy instrument is proposed. The policy instrument should (largely) remain the same or should be strengthened. Includes references to that the policy instrument or parts of it are a solution regarding certain challenges. |
| | **4.d.2** Negative (non-solution) | A policy instrument is considered as insufficient or ineffective. The policy instrument is 'not the fit for the job' and therefore should be removed or substituted. Includes references to that a policy instrument or parts of it are not working or need to be decreased or abolished. Requires further development / show room for further development, low uptake. |
| | **4.d.3** Alternative | An alternative or substitution for a policy is being proposed. Includes references to the introduction of new or extra policy instruments or suggesting change(s) to a current instrument. |
| | 4.e Policy Principles<br>*Ideas, rules, standards that guide the development or are at the base of certain policy instruments or decisions.* | |
| | **4.e.1** Parsimonious tool use | References to optimal ratio of the number of tools to goals is 1:1. The number of policy tools / instruments in any policy mix should match the number of goals or objectives. |
| | **4.e.2** Sequencing | Only moving up the scale of coercion in instruments from minimum to maximum if and when necessary. |
| | **4.e.3** Consistency | References to ensuring that multiple policy tools should reinforce rather than undermine each other in the pursuit of policy goals. |
| | **4.e.4** Coherence | References to ensuring that multiple policy goals should co-exist with each other and with instrument norms in a logical fashion. |
| | **4.e.5** Congruence | References to ensuring that goals and instruments should work together in a uni-directional or mutually supportive fashion. |
| | **4.e.6** Maximise complementary effects | References to ensuring that policy instruments involved and invoked in a policy mix are inherently complementary in the sense that they do not evoke contradictory responses |

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| | | from policy targets. The aim is to maximise supplementary effects while minimising counterproductive policy effects. |
| | **4.e.7** Matching tools and target behaviours | References to ensuring that policy instruments fit with anticipated behaviour and/or compliance of the targeted actors. |
| | **4.e.8** Flexibility | References to making sure that policies can adapt to deal with surprise an uncertainty over the medium-to-long-term. The policy should be able to maintain the same performance in the face of any type of internal/external perturbation. |
| | **4.e.9** Horizontal policy integration | References to organising and coordinating policy goals and instruments within and between policy sectors, such as environmental, climate, ecological or health policies. |
| | **4.e.10** Vertical policy integration | References to organising and coordinating policy goals and instruments between governmental levels (i.e. EU , national, and regional levels). |
| | **4.e.11** Simplifying | References to simplifying administrative procedures and regulatory burdens and reducing them to only the essential ones. Includes references to (the need to) reducing red tape, bureaucracy etc. |
| | **4.e.12** Transparency | References to allowing those affected by administrative decisions to know about the resulting facts and figures and about the process that resulted in those decisions. Transparency refers to public actors act openly and that citizens know about the decisions that are made. Also includes references to availability of information on policies and actions. |
| | **4.e.13** Public money – Public goods | Refers to receiving public funding or subsidies based on providing public goods rather than for providing private goods. Also, for providing public goods that are hardly or not renumerated by the market. Includes references such as 'public money for public goods'. |
| | **4.e.14** Subsidiarity | References to the principle that holds that social and political issues should be dealt with at the most immediate (or local) level that is consistent with their resolution. Includes references to decentralisation. |
| | **4.e.15** Homogeneity | References to one-size fits all, common policy, uniformity, creating a level playing field. |
| | **4.e.16** Heterogeneity | References to the need of various instruments per different target groups or sectors, target-specific tools, tailor-made solutions. |
| | **4.e.17** Performance-based | References to the need for policies that are performance-oriented, i.e. focused on achieving objectives/goals rather than means, and renumerate for performance. |

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| | **4.e.18** Targeting | References to changing, adapting, switching the target group of a policy instrument. |
| | **4.e.19** Redistribution | References to redistribution financial support, i.e. changing or adapting the transfer of income support from some individuals to others by means of policy intervention / regulations. |

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| 5. *For what reason(s)?*<br><br>*[Moral values]*<br><br>*If reasons are given for a policy recommendation, code the reason using these codes.* | 5. Moral values<br>*Principles or standards of proper conduct (one's judgement of what is important) that are mentioned as the reason for a policy instrument* | |
| | **5.a** Solidarity | References to adjusting single / individual interests in line with collective interests. Includes references to unity around a common goal or working together towards an agreed-upon outcome. |
| | **5.b** Universality | References to equal and similar treatments as without differences between individuals. Each individual is considered and treated the same as others. |
| | **5.c** Equity | References to fairness, justice, and equality in outcomes, not just in supports and opportunity. Individuals should be given fair treatment and compete on a 'level playing field'. |
| | **5.d** (Personal) responsibility | References to individuals' or groups' duties or obligations to which they are required, by some standard, to attend. |
| | **5.e** Stewardship | References to managing, looking after, or conserving natural resources with as goal to ensure farming in the near future. Includes references to environmental, agricultural, land stewardship, taking care of the land(scape) and/or nature. |
| | **5.f** Efficiency | References to ensuring the best possible operation, guided by minimum cost and maximum output. Include references to 'getting the most out of it', careful use of resources for their most valuable use. |
| | **5.g** Choice | References to the (opportunity) to choose between multiple options or possibilities and make decisions. |
| | **5.h** Freedom | References to the condition, right or ability of being able or allowed to act, say, think as one wants, without being controlled or limited. |
| | **5.i** Competitiveness | References to activities or conditions of striving to gain or win something by 'being better' than others or establishing superiority or supremacy over |

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| | | others. Includes references to competition, winning, losing, and not wanting to lose. |
| | **5.j** Survival | References to ensuring to continue to exist, despite difficult circumstances, continuing to go on. |
| | **5.k** Tradition | References to inherited, established or customary pattern of thought, action, or behaviour. Mostly relates to the past (actions, experiences, beliefs). Includes references such as customs, 'always done it this way', cultural continuity in social attitudes, customs and institutions, methods. |
| | **5.l** Religion | References to religion, established belief systems, dogmas or views on the world offered by a particular theism. |
| | **5.m** Atonement | References to making amends for a wrong decision, (wanting to) fix past mistakes, repairing previous made errors. |
| | **5.n** Science | References to making decisions based on (scientific) evidence, research, studies, systematic observations. |
| | **5.o** Renumeration | References to remunerating people for their work, rewarding or giving rewards, or compensate for one's effort. |
| | **5.p** Sustainability | References to sustainability or sustainable development in general, i.e. meeting one's own needs without compromising the ability of future generations to meet their own needs concerning natural resources, social equity, and economic development.<br><br>**Use this code when it is unclear which type of sustainability is referred to in the text, when sustainability is mentioned as a general term, or when all three types of sustainability (codes 5.q, 5.r, 5.s) are mentioned.** |
| | **5.q** Environmental sustainability | References to maintaining ecological integrity and keeping Earth's environmental systems in balance, while making use of natural resources at a rate where they are able to replenish themselves, ensuring that future generations have natural resources available to have an equal/better quality of life. Making use of natural resources, while living within the carrying capacity of the Earth's supporting ecosystems. |

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| | **5.r** Economic sustainability | References to (supporting) the ability of an economy to support a certain level of economic productivity in the long run (long-term economic growth). Includes ensuring that individuals can access (financial) resources to meet their needs, to secure sources of livelihood. Also refers to supporting long-term economic growth that reduces negative impacts on social or environmental aspects. |
| | **5.s** Social sustainability | References to (supporting) the ability of current and future generations to create healthy and liveable communities/societies based on fair an equal access to social resources, including but not limited to human right, labour rights, necessities, health, and well-being. |
| | **5.t** Prevention | References to prevention, i.e. stopping something from happening or minimising the chance of making things worse (includes references to e.g. elements related to the precautionary principle). |
| | **5.u** Consistency | References to ensuring a consistent situation, i.e. staying the same at a larger time span, preferring a status quo. |
| *6. According to whom?*<br><br>*[Actors – the speakers / authors of the statements found in the policy documents]*<br><br>*The actors will be categorised using the 'Document grouping' option in ATLAS.ti*<br><br>*Certain actor groups also are assigned a code. This was done to code segments belonging to certain actors within a document. These codes are added beneath the* | **Group 1. European Commission**<br>1.1 European Commission<br><br>*6.a DG AGRI*<br>*6.b DG SANTE*<br>*6.e DG RTD* | |
| | **Group 2. European Parliament**<br>2.1 European Parliament<br><br>2.2 European Parliament Committees<br>2.2.1 Committee AGRI<br>2.2.2 Committee ENVI<br><br>2.3 Political groups in European Parliament<br>2.3.1 European People's Party (EPP)<br>2.3.2 Progressive Alliance, Socialists & Democrats (S&D)<br><br>2.4 European Members of Parliament (MEPs)<br>*6.g MEP* | |

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| *associated group, in italic.* | **Group3. The Council of the European Union**<br>4.1 The Council (general) | |
| | **Group 4. Member States**<br>4.1 National governments<br><br>4.2 National Parliaments<br>*6.h National Parliaments*<br><br>4.3 National MEPs.<br><br>4.4 Advisory councils | |
| | Stakeholders | |
| | **Group 5. Agricultural and rural interest groups**<br>5.1 Traditional (conventional) farmers' organisations<br><br>5.2 Young farmers' organisations<br><br>5.3 Sustainable farming organisations (agroecological farmers' organisations) | |
| | **Group 6. NGOs**<br>6.1 Environmental NGOs and advocacy groups**.**<br><br>6.2 Civil Society NGOs and advocacy groups<br><br>6.3 Consumer NGOs and advocacy groups<br><br>6.4 Health NGOs and advocacy groups | |
| | **Group 7. Industry and trade**<br>7.1 Food producers and processers' organisations<br><br>7.2 Agri-chemical industry<br><br>7.3 Agri-technological organisations<br><br>7.4 Trade organisations | |

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| | **Group 8. Businesses and enterprises**<br>8.1 Farming business<br><br>8.2 Non-farming business | |
| | **Group 9. Regional/local authority** | |
| | **Group 10. Research and academia**<br>*6.c Researchers / academics* | |
| | **Group 11. Consultancy and law** | |
| | **Group 12. Churches and religious communities** | |
| | **Group 13. Others** | Actors that do not fit any of the above-mentioned actor groups. |
| | **Group 14. Farm-to-Fork Strategy documents** | |

## Chapter 4 – Appendix II: Data repair strategy

Retrieving additional stakeholder position papers of the CAP post-2020 Public Consultation Round

### 1. Problem

During the CAP post-2020 reform round, an open public consultation round allowed stakeholders to provide input on the future of the CAP. An online survey was set-up, allowing stakeholders to respond to survey questions and upload an extra document (i.e., position paper) as input to the consultation round. These position papers present the respondents opinions about the CAP post-2020 and its design. Results to the survey and the position papers (question 34) are published online on EUSurvey: https://ec.europa.eu/eusurvey/publication/FutureCAP

The results of the survey are presented in an online table format, containing 63.295 individual responses (according to the summary report of the stakeholder consultation round), of which 1.417 responses contain a document (personal communication DG AGRI). To retrieve the stakeholder position papers, one needs to go manually through the table with 63.295 individual responses, check to see if a position paper is uploaded, and download each position paper individually. No easier ways of retrieving the documents are available.

The problem is that going through the survey results manually is difficult, or even impossible, due to the following reason:

The survey's table is loaded in portions, meaning that each time you scroll down in the table with responses, the table will need to continuously load to show the next results. Each time you scroll further down in the table, the loading times increase because the table will contain more and more data. Loading times would reach over 5-10 minutes per time that you scroll down in the table; and the website became more and more vulnerable to crashing and shutting down, meaning that you must start the scrolling process from the beginning.

Retrieving the documents in portions (e.g., going through the table for one hour a day to retrieve position papers) was not a solution, because this would require going through the scrolling process once more to reach the same point in the table where you left of.

To solve this issue, the following actions were taken:

- Opening the online survey on different computers (both laptops as desktop with higher specifications) and using different internet connections (both Wi-Fi and making use of an Ether cable): the issue remained the same.
- Asked colleagues and friends to open the survey and ask if they experience the same problem: they experienced the same issue.

- Brainstormed with colleagues and friends about other ways of retrieving the documents (e.g., via coding); however, writing such a code would cost a lot of time and effort. Besides writing such a data retrieval code would require the involvement of a third party due to limited knowledge on data retrieval coding.
- Contacted the people of the EU Survey / DG AGRI on multiple occasions[5]; however:
    - The stakeholder position papers are public on EUsurvey and therefore do not fall under Regulation (EC) No 1049/2001 regarding public access to European Parliament, Council and Commission documents.
    - Allowing direct access to the 1.417 documents and opening the entire consultation is not possible due to the privacy of personal data of contributors.
    - They could not offer an easier way of accessing the position papers or a way to download them all in one go; the only way of retrieving the position papers is by doing it manually.

Based on these experiences, we concluded that it is currently impossible to retrieve and access all the stakeholder position papers via the EUSurvey. Despite the issues, we were still able to retrieve the first **145** position papers, which are included in the data set.

## 2. Repair strategy

As these 145 might not be representative for all the stakeholder position papers, a repair strategy was developed to complement the collected 145 position papers. The goal of this strategy is to collect additional stakeholder position papers to expand the data set, aiming to include more different stakeholders that were not already included in the data set. The repair strategy includes two steps: (1) using Google to search for additional stakeholder position papers; and (2) a specific search for position papers of major Eurogroups involved in the CAP post-2013 reform round.

### Step 1: Google search

Google is used as a search engine to retrieve additional stakeholder position papers. Using Google for data retrieval requires to define a search strategy. We made use of the following search query:

- **Key words**:
    - "Common Agricultural Policy" / CAP
    - **AND** Reform
    - **AND** 2020 / post-2020
    - **AND** "position paper" / recommendations

[5] I saved the email conversation with DG AGRI as a separate file.

- **Time period**:
    - 1 January 2016 – 1 June 2018 (Corresponds with the start CAP post-2020 reform round (mid-2016) and the date that the European Commission presented legislative proposals for the reform of the CAP).
    - In addition, searched for position papers without specifying a time period to check if no hits were missed in previous search rounds. Newly found position papers were added to the data set.
- Only the first **20 pages** of hits were included in the search

Additionally, the operator filetype: was added to limit results to commonly used file types for position papers.

- **Filetype**:
    - filetype:**pdf**
    - filetype:**docx**
    - filetype:**doc**

At a certain point, the same websites or position papers showed up in the search results, indicating the point of saturation.

**Step 2: Position papers of major Eurogroups**

To ensure that the positions and views of major CAP stakeholders are included in the data set, a second step was added to specifically search for position papers of major Eurogroups that have represented CAP stakeholders during past CAP reforms. A Eurogroups is an organisation that represents European organisations that share opinions on a specific topic or issue in Brussels.

Klavert & Keijzer (2012) have reviewed stakeholders' views on the CAP post-2013 reform. They examined how various stakeholders try to influence how the CAP can enable the EU to tackle food security and the provision of environmental public goods. They identified major Eurogroups that participated in the CAP post-2013 reform and included a list of the Eurogroups included in their analysis. The list of Klavert & Keijzer (2012) offers a good overview of the major CAP Eurogroups (see table 1).

We, therefore, searched specifically for CAP post-2020 position papers of the Eurogroups included on the list of Klavert & Keijzer (2012) to complement the found position papers. We searched for the position papers on the official websites of the Eurogroups. Position papers that were already found via the EUSurvey or the Google search were not added to the data set.

**Table 1**: *List of major CAP Eurogroups. Adapted from Klavert & Keijzer (2012).*

| Eurogroup | Description | Already part of dataset |
|---|---|---|
| BirdLife | Partnership of conservation organisations that strives to conserve birds, their habitats and global biodiversity. | Yes |
| CELCAA | The European Liaison Committee for Agricultural and Agri-Food Trade (**C**omité **e**uropéen de **l**iaison du **c**ommerce **a**gro**a**limentaire). Founded by European product-specific trade associations involved in retail and wholesale of agricultural and agri-food products. | No |
| COCERAL | European Association of cereals, rice, feedstuff, oilseeds, olive oil, oils and fats and agrosupply trade. Voice representing the European cereals, rice, feedstuffs, oilseeds, olive oil, oils and fats and agro-supply trade. | No |
| COPA-COGECA | Recognised as the organisation speaking on behalf of the EU agricultural sector as a whole. Among the biggest and most active interest organisations in Brussels. | No |
| CropLife Europe | Formerly known as European Crop Protection Association (**ECPA**). Represents Europe's crop industry. Ambassador of the crop protection industry in Europe. | No |
| EEB | The **E**uropean **E**nvironmental **B**ureau. Largest coalition of grassroots environmental organisations. | Yes |
| EFFAT | **E**uropean **F**ederation of **F**ood, **A**griculture and **T**ourism Trade Unions. Defends the interests of more than 25 million workers in the Food, Agriculture, Tourism, and Domestic Workers sectors as well as other related sectors, services, and activities in Europe, within the European institutions, European industrial federations and enterprise management. | Yes |
| Fertilizers Europe | The European Fertilizer Manufacturers Association (EFMA). The European Fertilizer Manufacturers Association represents the major fertilizer manufacturers in Europe. Promotes the role of mineral fertilisers in European agriculture and horticulture. | No |
| ELO | The **E**uropean **L**andowners' **O**rganization represents the interests of the owners and managers of rural land, and rural businesses within the EU. | Yes |
| Eucolait | Representative organisation of the European dairy trading community | No |
| FEFAC | The European Feed Manufacturers' Federation (**F**édération **E**uropéenne des **F**abricants d'**A**liments **C**omposés). Spokesman of the European Compound Feed Industry at the level of the European institutions. | No |
| FoodDrinkEurope | Food industry trade association with mission to facilitate development of an environment in which all European food and drink companies, whatever their size, can meet the needs of consumers and society, while competing effectively for sustainable growth. | No |
| ECVC | The European Coordination Via Campesina (La Coordination Via Campesina) (ECVC) is an international movement which defends small-scale sustainable agriculture as a way to promote social justice and dignity and strongly opposes corporate-driven agriculture and transnational companies that are destroying people and nature. | No |

| | | |
|---|---|---|
| PAN-Europe | The **P**esticide **A**ction **N**etwork **E**urope is a network of over 600 non-governmental organisations, institutions, and individuals in over 60 countries worldwide working to minimise the negative effects of hazardous pesticides and to replace their use with ecologically sound and socially just alternatives. Committed to bringing about a substantial reduction in pesticide use throughout Europe. | No |

## 3. Results

### Total (step 1 and step 2):

Total number of position papers: **51**

Total number of new position papers mentioning resilience: **24**

### Step 1: Google search

Total number of position papers: **35**

Total number of new position papers mentioning resilience: **19**

Double hits were not added to the table, i.e., the same position papers found via different search terms.

| No. | Organisation - title | Search term | Already part of dataset? | Use resilience / resilient |
|---|---|---|---|---|
| 1 | **WWF** – Time is ripe for change: towards a common agricultural policy that works for people and nature | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | Yes | Yes |
| 2 | **WUR** – Towards a Common Agricultural and Food policy | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | Yes |
| 3 | **AREPO** – A new CAP for High quality food | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | Yes |
| 4 | **CEJA** – Young farmers are key in the future CAP | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | Yes |
| 5 | **LIFE FOOD & BIODIVERSITY project** – how to reinforce biodiversity performance in the future CAP | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | No |
| 6 | **EPHA** - A CAP for Healthy Living Mainstreaming Health into the EU Common Agricultural Policy | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | No |

| | | | | |
|---|---|---|---|---|
| 7 | **Socialists & Democrats** (EP) – The agriculture we need: environment, health, agriculture & fisheries. | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | Yes |
| 8 | **European Countryside Movement -** Communication on "the future of food and farming": what implications for rural development? | "common agricultural policy" OR CAP AND 2020 AND "position paper" filetype:pdf | No | No |
| | | | | |
| 9 | **CEMA** - Smart Agriculture for All Farms What needs to be done to help small farms access Precision Agriculture? How can the next CAP help? | "common agricultural policy" AND 2020 AND "position paper" filetype:pdf | No | No |
| | | | | |
| 10 | **Biodiversa (policy brief) -** The Common Agricultural Policy can strengthen biodiversity and ecosystem services by diversifying agricultural landscapes | "common agricultural policy" AND reform AND 2020 AND "policy brief" filetype:pdf | No | Yes |
| 11 | **BIOGEA** (policy brief) – A green architecture for green inrastructure | "common agricultural policy" AND reform AND 2020 AND "policy brief" filetype:pdf | No | No |
| | | | | |
| 12 | **EUROPARC FEDERATION** – European Protected Areas & Sustainable Agriculture: working in partnership for biodiversity and rural development | "common agricultural policy" AND reform AND 2020 AND "position paper" | No | Yes |
| 13 | **IEEP –** Getting to the roots of sustainable land management | "common agricultural policy" AND reform AND 2020 AND "position paper" | No | No |
| 14 | **Living Land** – CAP Recommended Responses | "common agricultural policy" AND reform AND 2020 AND "position paper" | No | Yes |
| 15 | **European Diary Association (EDA)** – The future of Dairy in the Post-2020 Common Agricultural Policy of the EU. | "common agricultural policy" AND reform AND 2020 AND "position paper" | No | No |
| | | | | |
| 16 | **FiBL / IFOAM** -<br>Towards a new public goods payment model for remunerating farmers under the CAP Post-2020 | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | No |
| 17 | **European People's Party (Members from France, Spain, Portugal and Greece) -** A REFORM OF THE COMMON AGRICULTURE POLICY<br>Proposals for a Mediterranean agriculture post-2020 | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | Yes |
| 18 | **Fern** – Agriculture and deforestation: the EU Common Agricultural policy, soy, and forest destruction – proposals for reform. | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | No |

| | | | | |
|---|---|---|---|---|
| 19 | **IFOAM -** A CAP for healthy farms, healthy people, healthy planet Public money must deliver public goods | CAP **AND** reform **AND** post-2020 **AND** recommendations | Yes | Yes |
| 20 | **Irish Farmers' Association (IFA)** – Common Agricultural Policy (CAP) | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | No |
| 21 | **De Schutter (2017) –** A Food Policy for Europe | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | Yes |
| 22 | **Macra na Feirme –** CAP 2020: Young farmer Roadmap for Generational Renewal | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | Yes |
| 23 | **European People's Party** – EPP views on the future of the CAP: For a strong, sustainable and innovative EU agriculture | CAP **AND** reform **AND** post-2020 **AND** recommendations | No | Yes |
| | | | | |
| 24 | **Civil Society Statement on the reform of European Agricultural Policies** – Good food, Good Farming – Now! | "Common Agricultural Policy" **AND** reform **AND** post-2020 **AND** recommendations | No | Yes |
| | | | | |
| **Without time period** | | | | |
| 25 | **AGROECOLOGY EUROPE -** Reforming the Common Agricultural Policy of the European Union in the Framework of the Green Deal | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" filetype:pdf | No | Yes |
| 26 | **EFFAT** - EFFAT's Demands in view of the post-2020 CAP revision - A SOCIAL CAP FOR ACHIEVING FAIR WORK IN EUROPEAN AGRICULTURE | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" filetype:pdf | No | No |
| 27 | **Irrigants d'Europe -** The Future CAP 2021-2027: A challenge for irrigated agriculture | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" filetype:pdf | No | Yes |
| | | | | |
| 28 | **Care-Peat and partners** - Position Paper: Preserve peatlands in post-2020 CAP | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" (2016-2021) | No | No |
| 29 | Non-paper from **Austria, Cyprus, Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, Poland, Romania and Spain** Proposals to make CAP implementation simpler | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" (2016-2021) | No | No |
| 30 | **IFOAM -** Towards a post-2020 CAP that supports farmers and delivers public goods to Europeans | "Common Agricultural Policy" AND reform | No | Yes |

| | | | | |
|---|---|---|---|---|
| | Avoiding a race to the bottom - An ambitious and better targeted CAP | AND post-2020 AND "position paper" (2016-2021) | | |
| 31 | **Academics -** Action needed for the EU Common Agricultural Policy to address sustainability challenges (Pe'er et al., 2020, DOI: https://doi-org.ezproxy.library.wur.nl/10.1002/pan3.10080) | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" (2016-2021) | No | Yes |
| 32 | **BirdLife** - Position Paper: Feeding the world whilst saving biodiversity—policy asks on diet, bioenergy and food waste | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" (2016-2021) | No | No |
| 33 | **BirdLife** – Reform the CAP: 3 Solutions to beat the biodiversity & climate crisis | "Common Agricultural Policy" AND reform AND post-2020 AND "position paper" (2016-2021) | | Yes |
| | | | | |
| 34 | **EEB / BirdLife Europe / Greenpeace / WWF –** Last chance CAP | CAP AND reform **AND** post-2020 **AND** "position paper" (2016-2021) | No | Yes |
| 35 | **BirdLife -** TOWARDS A NEW EUROPEAN FOOD AND LAND-USE POLICY POSITION PAPER | CAP AND reform **AND** post-2020 **AND** "position paper" (2016-2021) | No | Yes |

**Used queries:**

**With results** (many double hits)

- "common agricultural policy" **OR** CAP **AND** 2020 **AND** "position paper" **filetype**:pdf (2016-2018)
- "common agricultural policy" **AND** reform **AND** 2020 **AND** "position paper" (2016-2018)
- "common agricultural policy" **AND** reform **AND** 2020 **AND** "position paper" **filetype**:pdf (2016-2018)
- "common agricultural policy" **AND** reform **AND** post-2020 **AND** "position paper" (2016-2018)
- CAP **AND** reform **AND** post-2020 **AND** "position paper" (2016-2018)
- "common agricultural policy" **AND** reform **AND** post-2020 **AND** "position paper" **filetype**:pdf
- "Common Agricultural Policy" **AND** reform **AND** "post 2020" **AND** recommendations (2016-2018)
- CAP **AND** reform **AND** post-2020 **AND** recommendations (2016-2018)
- "common agricultural policy" **AND** reform **AND** post-2020 **AND** recommendations **filetype**:pdf (2016-2018)

**Also, searched without a "time period"**

- "Common Agricultural Policy" **AND** reform **AND** post-2020 **AND** "position paper" filetype:pdf (2016-2021)
- "Common Agricultural Policy" **AND** reform **AND** post-2020 **AND** "position paper" (2016-2021)

- CAP AND reform **AND** post-2020 **AND** "position paper" (2016-2021)
- CAP AND reform **AND** post-2020 **AND** "position paper" **filetype**:pdf (2016-2021)

**Without results:**
"common agricultural policy" **AND** 2020 **AND** "position paper" **filetype**:docx
"common agricultural policy" **AND** 2020 **AND** "position paper" **filetype**:doc
"common agricultural policy" **AND** reform **AND** 2020 **AND** "policy brief" **filetype**:docx
"common agricultural policy" **AND** reform **AND** 2020 **AND** "policy brief" **filetype**:doc

**Step 2: Position papers of major Eurogroups**
Total number of position papers: **16**
Total number of new position papers mentioning resilience: **5**

| No. | Eurogroup | Search terms | Already part of dataset | Use resilience / resilient |
|---|---|---|---|---|
| | **Birdlife** | | Yes | |
| 36 | **CELCAA -** Preliminary comments on the consultations of future of the Common Agricultural Policy | Via official website: "Position papers" | No | No |
| 37 | **COCERAL -** COCERAL Position Paper on the Future of European Agriculture Policy Post-2020 | Via official website: "Position papers" | No | No |
| 38 | **COPA-COGECA -** Copa and Cogeca position on the CAP post 2020 (2018 - published after public consultation round). | Via official website: "Position paper" | No | No |
| 39 | **COPA-COGECA –** Indicative guidelines for the development of CAP strategic plan (2019 - published after public consultation round) | Via official website: "Common Agricultural Policy" | No | Yes |
| | **CropLife Europe** | No position paper found | | |
| | **EEB** | | Yes, step 1 | |
| 40 | **EFFAT -** The CAP after 2020 | Via official website: "position paper" | No | No |
| 41 | **EFFAT** - Towards a social agricultural policy. The positions of agricultural unions on social issues involving the EU Common Agriculture Policy (CAP). | Via official website: "position paper" | No | No |
| 42 | **Fertilizers Europe** - Consultation on modernizing and simplifying the Common Agricultural Policy (CAP) Contribution of Fertilizers Europe. | Via official website: "position paper" | No | No |
| 43 | **European Landowners Organisation (ELO) -** GENERAL CONSIDERATIONS on Modernising the CAP (Question 34) | Via official website: "Common Agricultural Policy" | Yes | Yes |

| | | | | |
|---|---|---|---|---|
| 44 | **ELO / CEJA / CEPF / CIC / COPA COGECA / FACE / UECBV** - Rural Coalition Statement: "Empowering rural areas in the CAP post-2020" | Via official website: "Common Agricultural Policy" | No | Yes |
| | **Eucolait** | No position paper found | | |
| 45 | **FEFAC -** FEFAC position on CAP | Via official website: "Common Agricultural Policy" | No | Yes |
| | **FoodDrinkEurope** | No position paper found | | |
| 46 | **ECVC -** For an agricultural and food policy at the service of the people! | Via official website: "Common Agricultural Policy" | No | No |
| 47 | **ECVC -** Peasant Perspective on the CAP | Via official website: "Common Agricultural Policy" | No | No |
| 48 | **ECVC –** ECVC Youth Articulation Position Document on the Common Agricultural Policy (CAP) Reform | Via official website: "Common Agricultural Policy" | No | No |
| 49 | **ECVC –** ECVC Analysis of the proposed regulation for the CAP 2021-2027 Reform and the Strategic Plans | Via official website: "Common Agricultural Policy" | No | Yes |
| 50 | **PAN-Europe -** Inspiration note for the development of EU's Common Agricultural Policy: Why the CAP is broken on pesticides? | Via official website: "Common Agricultural Policy" | No | No |
| 51 | **PAN-Europe** - PAN Europe's position on the proposal for a New Delivery Model for the CAP after 2020. | Via official website: "Common Agricultural Policy" | No | Yes |

## Chapter 4 – Appendix III: Analysed documents framing analysis

*European Commission's documents*


1. European Commission (2017). Communication from the commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - The Future of Food and Farming, 29 November, COM(2017) 713 final. Brussels: European Commission.

2. European Commission (2018). Communication from The Commission to The European Parliament, The European Council and The Council - A New, Modern Multiannual Financial Framework for a European Union that Delivers Efficiently on its Priorities Post-2020, 14 February, COM(2018) 98 final. Brussels: European Commission.

3. European Commission (2018). Proposal for a Regulation of The European Parliament and of The Council - Establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council, 1 June, COM(2018) 392 final. Brussels: European Commission.

4. European Commission (2018). Proposal for a Regulation of The European Parliament and of The Council - On the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1306/2013, 1 June, COM(2018) 393 final. Brussels: European Commission.

5. European Commission (2018). Proposal for a Regulation of The European Parliament and of The Council amending Regulations (EU) No 1308/2013 - Establishing a common organisation of the markets in agricultural products, (EU) No 1151/2012 on quality schemes for agricultural products and foodstuffs, (EU) No 251/2014 on the definition, description, presentation, labelling and the protection of geographical indications of aromatised wine products, (EU) No 228/2013 laying down specific measures for agriculture in the outermost regions of the Union and (EU) No 229/2013 laying down specific measures for agriculture in favour of the smaller Aegean islands, 1 June, COM(2018) 394 final/2. Brussels: European Commission.

6. European Commission (2020). Commission Staff Working Document - Analysis of links between CAP Reform and Green Deal, 20 May, SWD(2020) 93 final. Brussels: European Commission.

7. European Commission (2020). Communication from The Commission to The European Parliament, The European Council, The Council, The European Economic and Social Committee and The Committee of the Regions - The EU budget powering the recovery plan for Europe, 27 May, COM(2020) 442 final. Brussels: European Commission.

8. European Commission (2020). Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions- On an EU strategy to reduce methane emissions, 14 October, COM(2020) 663 final. Brussels: European Commission.

***Recommendations to the Member States as regards their CAP National Strategic Plan***

1. European Commission (2020). Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions -Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, COM(2020) 846 final. Brussels: European Commission.

2. European Commission (2020). Commission Staff Working Document Commission recommendations for Austria's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 367. Brussels: European Commission.

3. European Commission (2020). Commission Staff Working Document Commission recommendations for Belgium's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 368. Brussels: European Commission.

4. European Commission (2020). Commission Staff Working Document Commission recommendations for Bulgaria's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 369. Brussels: European Commission.

5. European Commission (2020). Commission Staff Working Document Commission recommendations for Croatia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 384. Brussels: European Commission.

6. European Commission (2020). Commission Staff Working Document Commission recommendations for Cyprus' CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions

- Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 370. Brussels: European Commission.

7. European Commission (2020). Commission Staff Working Document Commission recommendations for Czechia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 393. Brussels: European Commission.

8. European Commission (2020). Commission Staff Working Document Commission recommendations for Denmark's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 371. Brussels: European Commission.

9. European Commission (2020). Commission Staff Working Document Commission recommendations for Estonia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 375. Brussels: European Commission.

10. European Commission (2020). Commission Staff Working Document Commission recommendations for Finland's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 376. Brussels: European Commission.

11. European Commission (2020). Commission Staff Working Document Commission recommendations for France's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 379. Brussels: European Commission.

12. European Commission (2020). Commission Staff Working Document Commission recommendations for Germany's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the

Common Agricultural Policy, 18 December, SWD(2020) 373. Brussels: European Commission.

13. European Commission (2020). Commission Staff Working Document Commission recommendations for Greece's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 372. Brussels: European Commission.

14. European Commission (2020). Commission Staff Working Document Commission recommendations for Hungary's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 397. Brussels: European Commission.

15. European Commission (2020). Commission Staff Working Document Commission recommendations for Ireland's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 377. Brussels: European Commission.

16. European Commission (2020). Commission Staff Working Document Commission recommendations for Italy's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 396. Brussels: European Commission.

17. European Commission (2020). Commission Staff Working Document Commission recommendations for Latvia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 386. Brussels: European Commission.

18. European Commission (2020). Commission Staff Working Document Commission recommendations for Lithuania's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards

their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 395. Brussels: European Commission.

19. European Commission (2020). Commission Staff Working Document Commission recommendations for Luxembourg's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 385. Brussels: European Commission.

20. European Commission (2020). Commission Staff Working Document Commission recommendations for Malta's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 387. Brussels: European Commission.

21. European Commission (2020). Commission Staff Working Document Commission recommendations for The Netherland's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 388. Brussels: European Commission.

22. European Commission (2020). Commission Staff Working Document Commission recommendations for Poland's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 389. Brussels: European Commission.

23. European Commission (2020). Commission Staff Working Document Commission recommendations for Portugal's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 398. Brussels: European Commission.

24. European Commission (2020). Commission Staff Working Document Commission recommendations for Romania's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the

Common Agricultural Policy, 18 December, SWD(2020) 391. Brussels: European Commission.

25. European Commission (2020). Commission Staff Working Document Commission recommendations for Slovakia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 370. Brussels: European Commission.

26. European Commission (2020). Commission Staff Working Document Commission recommendations for Slovenia's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 394. Brussels: European Commission.

27. European Commission (2020). Commission Staff Working Document Commission recommendations for Spain's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 374. Brussels: European Commission.

28. European Commission (2020). Commission Staff Working Document Commission recommendations for Sweden's CAP strategic plan. Accompanying the document Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions - Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy, 18 December, SWD(2020) 390. Brussels: European Commission.

*European Parliament's & Council's documents*

1. Committee on Agriculture and Rural Development (AGRI) (2019). Amendments 1 – 55 on 2018 discharge: General budget of the EU - European Commission (2019/2055(DEC)), 10 December, 2019/2055(DEC). Brussels: Committee AGRI.

2. Committee on Agriculture and Rural Development (AGRI) (2020). Amendments 1 – 58 on Sustainable Europe Investment Plan - How to finance the Green Deal (2020/2058(INI)), 16 June, 2020/2058(INI). Brussels: Committee AGRI.

3. Committee on Agriculture and Rural Development (AGRI) (2020). Amendments 1 – 69 on General budget of the European Union for the financial year 2021 - all sections (2020/1998(BUD)), 1 September, 2020/1998(BUD). Brussels: Committee AGRI.

4. Committee on Agriculture and Rural Development (AGRI) (2020). Opinion of the Committee on Agriculture and Rural Development for the Committee on Budgets and the Committee on Economic and Monetary Affairs on the Sustainable Europe Investment Plan - how to finance the Green Deal (2020/2058(INI)), 9 July, 2020/2058(INI). Brussels: Committee AGRI.

5. Committee on Agriculture and Rural Development (AGRI) (2020). Opinion of the Committee on Agriculture and Rural Development for the Committee on Budgets on the draft general budget of the European Union for the financial year 2021 (2020/1998(BUD)), 24 September, 2020/1998(BUD). Brussels: Committee AGRI.

6. Committee on Agriculture and Rural Development (AGRI) (2020). Opinion of the Committee on Agriculture and Rural Development for the Committee on Industry, Research and Energy on a new strategy for European SMEs (2020/2131(INI)), 24 September, 2020/2131(INI). Brussels: Committee AGRI.

7. Committee on Agriculture and Rural Development (AGRI) (2021). Amendments 1 – 334 on EU Biodiversity Strategy for 2030: Bringing nature back into our lives (2020/2273(INI)), 21 January, 2020/2273(INI). Brussels: Committee AGRI.

8. European Parliament (2016). European Parliament resolution of 14 December 2016 on CAP tools to reduce price volatility in agricultural markets (2016/2034(INI)) (2018/C 238/08). Brussels: European Parliament.

9. European Parliament (2016). European Parliament resolution of 27 October 2016 on how the CAP can improve job creation in rural areas (2015/2226(INI)) (2018/C 215/34). Brussels: European Parliament.

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## Chapter 4 – Appendix IV: Complete frame matrices

**Table 4.2.1:** *Frame matrix for Income Resilience Frame*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| ***Income resilience frame*** | ***What** is resilience?* | | Income<br><br>Volatility (income, price, market).<br><br>Open markets; market exposure.<br><br>Viable or Viability.<br><br>Profitable or profitability.<br><br>Fairness | A fair income support to help farmers to make a living<br><br>Making farmers' income less vulnerable. | Comparing income in agricultural sector with other economic sectors, or with average income rest of the economy. |
| | *Resilience **of what**?* | The primary focus is on farmers and farming businesses, or more generally the agricultural sector. | | | |
| | *Resilience **to what**?* | The main issue is low farmers' income, affecting their ability to have a viable business.<br><br>Low and volatile farmers' income is related to unstable prices and markets or market- or weather-related shocks.<br><br>Focuses mainly on economic-related challenges. | | | |
| | *Resilience **for what purpose**?* | Providing farmers with a decent income with the aim to ensure food security. | | | |

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| | ***How to (not) enhance*** *resilience?* | Direct payment schemes, or more generally income support measures. Suggestions to improve the direct payments are better targeting and redistribution of support.<br><br>Risk and crisis management tools to deal or absorb shocks that lead to loss of income. | | | |
| | *Resilience* ***for what reason(s)****?* | Increasing the equity in the distribution of income support. | | | |
| | *Resilience according* ***to whom****?* | **Institutions**:<br>- European Commission (Communications; Recommendations for Member States' NSPs).<br>- European Parliament (MEPs in AGRI and ENVI Committee [Group of the European People's Party (Christian Democrats)]; Political Groups [Group of the European People's Party (Christian Democrats)] [Group of the Progressive Alliance of Socialists & Democrats]).<br>- Member States (Flanders, Ireland, The Netherlands)<br>**Stakeholders**:<br>- Agricultural and Rural interest groups (Traditional and Young farmers' organisations).<br>- Agricultural research, advisory and training services agency.<br>- Stakeholder conference on the CAP post-2020 Consultation Results - workshop summaries. | | | |

**Additional quotation(s):**

*"To target direct payments more effectively to ensure income to all farmers across the EU (…) the following possibilities in order to ensure a fair and better targeted support of farmers' income should be further explored: – A compulsory capping of direct payments taking into account labour to avoid negative effects on jobs; – Degressive payments could be introduced as well, as a*

*way of reducing the support for larger farms; – Enhanced focus on a redistributive payment in order to be able to provide support in a targeted manner e.g. to small-medium sized farms; – Ensure support is targeted to genuine farmers, focussing on those who are actively farming in order to earn their living."* (European Commission, 2017, pp.15-16)

**Table 4.3.1**: *Frame matrix of Farmers' supply chain position resilience frame*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| ***Farmers'supply chain position resilience frame*** | ***What** is resilience?* | | (Farmers') position<br><br>Value chain / (food) supply chain<br><br>Production value<br><br>Cooperation / collaboration<br><br>Producer organisations or groups | *"Rebalancing the distribution of power"*<br><br>"*Imbalances in the food supply chain"*<br><br>*"Capture a greater share of added value"* | Farmers are described as primary producers.<br><br>Emphasising the potential benefits and performance of cooperatives or producer organisations in the food supply. |
| | *Resilience **of what**?* | The frame focuses on the resilience of farmers and their farms. Agricultural sector. | | | |
| | *Resilience **to what**?* | Issues regarding vertical collaborations challenge resilience.<br><br>These issues relate to the farmers position in the food or value chain. The frame focuses on the differences in market power or rewards / income between primary producers (farmers) and other (bigger) food chain actors (food industry, supermarkets etc.). | | | |
| | *Resilience **for what purpose**?* | To improve the position of farmers in the value chain, allowing them to generate a larger share of income. Eventually, to allow farmers to continue working for securing food security. | | | |
| | ***How to (not) enhance** resilience?* | Three main policy instruments are recommended:<br>- (increasing) support for horizontal collaborations, via producer groups, cooperatives, inter-branch | | | |

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| | | organisations. This includes references to specific CAP Pillar I and II measures as well as more general references.<br>- Quality schemes and labels (national and EU)<br>- Localisation: focusing on local markets, local food chains. | | | |
| | *Resilience **for what reason(s)**?* | Competitiveness<br>Equity | | | |
| | *Resilience according **to whom**?* | **Institutions:**<br>- European Commission (Communications; Recommendations for almost all Member States' NSPs). Majorly promoted by European Commission, recommends (almost) each Member State to improve the position of farmers through supporting horizontal collaboration.<br>- European Parliament (MEPs in AGRI and ENVI Committee [The Left group in the European Parliament - GUE/NGL], [Progressive Alliance of Socialists and Democrats], [Group of the Greens/European Free Alliance]; Political Groups [Group of the European People's Party (Christian Democrats)]<br>- Member States (Flanders + governmental advisory council Flanders, Ireland, The Netherlands).<br><br>**Stakeholders:**<br>- Agricultural and rural interest groups (traditional and young farmers' organisations).<br>- Association of European Regions for Products of Origin (AREPO) | | | |

**Additional quotation(s):**

*"Recognised producer organisations can be a useful tool to enable farmers to strengthen their bargaining position in the value chain and to cooperate to reduce costs and to improve their competitiveness to improve market reward."* (European Commission, 2017, p.16 – The Future of Food and Farming).

**Table 4.4.1:** *Frame matrix of Climate Change Impact Resilience Frame*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| **Climate change impact resilience** | ***What** is resilience?* | | Climate-resilience<br><br>Extreme weather<br><br>Weather / climatic risks<br><br>Natural hazards / disasters | "Resilience to threats such as climate change" | Climate change is made tangible through examples of extreme weather events.<br><br>Climate change and environmental shocks are very often mentioned together. |
| | *Resilience **of what**?* | Main focus is on the EU's agricultural sector and its farmers/farms.<br><br>Forests & Forestry is especially often linked to weather events & changing climates.<br><br>Less often focused on agricultural practices and food systems. | | | |
| | *Resilience **to what**?* | Climate change impacts (long-term)<br>Environmental and weather-related shocks (floods, droughts, fires, heavy precipitation). | | | |
| | *Resilience **for what purpose**?* | Ensuring that agricultural production is climate change-resilient, mainly to ensure the production and availability of food (food production and food security).<br><br>Forest & forestry is often linked to protecting natural resources and biodiversity in case of extreme weather and climate change. | | | |
| | ***How to (not) enhance** resilience?* | Risk management tools and weather risk management.<br><br>Adaptive practices, such as diversifying agricultural practices or less often conversion | | | |

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| | | of agricultural practices. Adapting natural resource management, such as water management and soil management.<br>Most recommendations to enhance resilience are based on adaptation rather than mitigation: how to deal with the more extreme weather events / changing climates rather than preventing contributing to them. | | | |
| | *Resilience **for what reason(s)**?* | No clear reasons identified. | | | |
| | *Resilience according **to whom**?* | **Institutions:**<br>- European Commission (Communications; Recommendations for almost all Member States' NSPs).<br>- European Parliament (European Parliament resolutions; MEPs in AGRI and ENVI Committee [*European Conservatives and Reformists Group], [Group of the European People's Party (Christian Democrats)], [Identity and Democracy Group], [Renew Europe Group],* Political Groups [Group of the European People's Party (Christian Democracts)], [Group of the European People's Party (Christian Democrats) from France, Spain, Portugal and Greece], *[Group of the Progressive Alliance of Socialists & Democrats.]*<br>- *Whereas other political groups, positioned on the left-side of the political spectrum, mention that climate change impacts resilience, their argumentation fits better with ecological resilience frame.*<br>- Member States (Flanders + governmental advisory council Flanders, France, Ireland, The Netherlands).<br><br>**Stakeholders:**<br>- Agricultural and rural interest groups (mainly traditional farmer's organisations and a few sustainable farming organisations)<br>- Agri-technological organisation<br>- Stakeholder conference on the CAP post-2020 Consultation Results - workshop summaries; Plant research institute, University. | | | |

**Table 4.5.1**: *Frame matrix of Disease Resilience Frame.*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| ***Disease resilience*** | ***What** is resilience?* | | Pests (resilience)<br><br>Diseases<br><br>Outbreak<br><br>Pandemic<br><br>COVID-19 | X | COVID-19 pandemic / crisis is used as an example of a sudden crisis; and why resilience is important. |
| | *Resilience **of what**?* | Pest & diseases<br>- Farmers/farms<br>- Farming sub-sector<br>- Agricultural sector (whole).<br><br>Communicable diseases (COVID-19):<br>- Agri-food chains<br>- Food systems | | | |
| | *Resilience **to what**?* | Pests & diseases that affect the health of plants or animals.<br><br>Communicable diseases, such as COVID-19. Mainly focused on how COVID-19 pandemic caused problems in agri-food chains and food systems (the consequences (disruptive capabilities) of a pandemic). | | | |
| | *Resilience **for what purpose**?* | Food security<br>(Food production; food safety & quality; climate change action, protecting enhancing biodiversity). | | | |
| | ***How to (not) enhance** resilience?* | Pest & diseases<br>- Risk management, diversification of agri-practices, innovation / research.<br>Communicable diseases (COVID-19): | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | - No particular solutions provided | | | |
| | *Resilience **for what reason(s)**?* | X | | | |
| | *Resilience according **to whom**?* | **Institutions**:<br>- European Commission (Communications; Recommendations for certain Member States' NSPs.<br>o DG SANTE: issued the disease resilience frame of relevance for the CAP during the public consultation workshops.<br>- European Parliament (MEPs in AGRI and ENVI Committee *[Renew Europe Group], [The Left group in the European Parliament - GUE/NGL], [Group of the Progressive Alliance of Socialists and Democrats in the European Parliament], [Group of the Greens/European Free Alliance],* Political Groups *[Group of the Progressive Alliance of Socialists & Democrats]*).<br>- Member State (Ireland)<br>**Stakeholders**:<br>- Agricultural and Rural interest groups (Traditional farmers' organisations, but also sustainable farming organisations).<br>- Environmental NGOs and advocacy groups.<br>- Food producer and processers organisation. | | | |

**Additional quotation(s):**

*"The COVID-19 pandemic has underlined the importance of a robust and resilient food system that functions in all circumstances, and is capable of ensuring access to a sufficient supply of affordable food for citizens."* (European Commission, 2020, p.4 – Publication Farm-to-Fork Strategy).

**Table 4.6.1**: *Frame matrix of ecological resilience frame*

| | ***Reasoning devices*** | | ***Framing devices*** | | |
|---|---|---|---|---|---|
| | *Resilience questions* | | *Key words* | *Metaphors* | *Verbal devices* |
| ***Ecological resilience frame*** | ***What** is resilience?* | | Environment<br><br>Natural processes<br><br>Ecosystem(s) (functions).<br><br>Ecological services<br><br>Biodiversity<br><br>Habitats<br><br>Public goods<br><br>Multifunctionality<br><br>Restoration / restore<br><br>Protection / protect | *"Agriculture is the biggest driver of biodiversity decline in Europe"*<br><br>*"A reformed CAP is essential for a transition to a sustainable European agriculture model"*<br><br>*"Environmental and climate performance"* | Natural resources / the environment / biodiversity is presented as something that need to be restored and/or protected.<br><br>Something that requires healing?<br><br>A healthy environment is presented as contributing to the resilience of farmers / farming / agriculture.<br><br>The dependence between agriculture and the environment / ecosystems.<br><br>➔ Offers new business models. |
| | *Resilience **of what**?* | Agro-ecosystems, especially forests and the associated forestry sector.<br><br>Also, farmers and their farms and agricultural practices. | | | |
| | *Resilience **to what**?* | The frame focuses mainly on environmental challenges, such as weather events and changing climates (climate change adaptation and mitigation), biodiversity loss, pests and diseases.<br><br>Also, albeit not that often, income challenges are linked to the frame. | | | |
| | *Resilience **for what purpose**?* | Frame focused on resilience for providing public goods. These public goods are:<br>- Protecting and maintaining natural resources<br>- Protecting and enhancing biodiversity<br>- Climate change action (mainly through new innovations).<br>- Maintaining rural areas | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | These public goods largely contain environmental elements and are often mentioned together. | | | |
| | ***How to (not) enhance*** *resilience?* | Recommended policy solutions by the frame are:<br>- Diversification of agricultural practices (e.g sustainable management; climate smart agriculture)<br>- Conversion to alternative agricultural methods (e.g.; regenerative agriculture; agro-ecology; organic production<br>- Innovation / research<br>- And more general sustainability/public goods schemes<br><br>Principles:<br>- Performance-based, largely as alternative to current support schemes.<br>- Public money – public goods<br>- Maximise complementary effects | | | |
| | *Resilience* ***for what reason(s)****?* | Reasons given by the frame for (enhancing) resilience for public goods are:<br>- Sustainability, especially environmental sustainability<br>- Remuneration<br>- Competitiveness (climate change action + protecting maintaining natural resources) | | | |

| | | |
|---|---|---|
| | *Resilience according **to whom**?* | **Institutions**:<br>- European Commission (Communications; Recommendations for certain Member States' NSPs.)<br>  o European mainly links ecological resilience to forests and forestry sector.<br>- European Parliament (European Parliament, MEPs in AGRI and ENVI Committee - All related to the Farm-to-Fork Strategy – *[the Greens/EFA Group], [The Left group in the European Parliament - GUE/NGL], [Group of the Progressive Alliance of Socialists and Democrats in the European Parliament], [less often of Group of the European People's Party (Christian Democrats)],* Political Groups *[Group of the Progressive Alliance of Socialists & Democrats]*).<br>- Member States (Ireland, governmental advisory council Flanders).<br><br>**Stakeholders**:<br>- Agricultural and Rural interest groups (Sustainable farming organisations).<br>- Environmental NGOs and advocacy groups.<br>- Civil Society NGOs and advocacy groups<br>- Research and academics (Society for Conservation Biology, Schutter).<br>- Churches and religious communities<br>- Other (CAP position paper). |

**Additional quotation(s):**

*"Considers that the risks associated with climate change and land degradation across the whole farmed landscape need to be managed in the CAP, by investing in making agro-ecosystems resilient and robust, and by investing in ecological infrastructure to build topsoils, to reverse soil erosion, to introduce and lengthen crop rotations, to add more trees to the landscape and boost on-farm biological and structural diversity"* (European Parliament, 2018, p. 17 – Resolution).

*"The concept of public goods is a way of describing the environmental and social goods and services provided by agriculture and forestry that are not rewarded through the market. Maintaining or encouraging their production therefore needs supporting, through financial incentives or other mechanisms."* (Scottish Environment LINK, xxx, p.x – position paper)

# Summary

Farming systems in the European Union (EU) are increasingly being put under pressure due to short-term shocks and long-term stresses, such as volatile markets, geo-political tensions, changing climates and weather patterns, generational renewal, and biodiversity loss. The impact of these shocks and stresses makes it difficult for EU farming systems to continue delivering their private and public goods, like producing food, providing employment and income, and preserving rural areas, ecosystem services and biodiversity. The capability of farming systems to manage and respond to shocks and stresses while maintaining their essential functions is called resilience, and consists of the capacity of robustness, adaptability, and transformability. To ensure that farming systems can function properly in face of different challenges, scholars and policymakers call for strengthening resilience through EU agricultural policy. The resilience concept has also become a guiding principle in the EU's Common Agricultural Policy (CAP) post-2020 and in the Green Deal's Farm-to-Fork Strategy.

Both the resilience scholarship and policy sciences have acknowledged the link between resilience and public policies; however, systematic research to understand this link has remained scarce and some important knowledge gaps require attention: (1) when policy scientists adopt the resilience concept, it is primarily with an interest in how to design policies, or public administrations in general, that are resilient *themselves* rather than for enhancing systems' resilience. Consequently, public policy research to date has barely analysed the (potential) effects of policies on farming systems' resilience; (2) whereas existing resilience literature has focused more on understanding how public policies can strengthen the resilience of complex systems, approaches to systematically assess whether and how policies address resilience concerns and needs, and what this might imply for their design are hardly available; (3) EU agricultural policies are designed at supranational or national level whilst the resilience effects of these

policies are felt locally. However, little knowledge is available on how public policies influence the resilience 'in practice' at the local farming-systems level; and (4) research on how EU agricultural policies influence the resilience of farming systems is needed to support policymakers with designing policies that contribute to a long-term viable EU agricultural sector.

Based on the identified knowledge gaps, this dissertation aims to analyse and explain how the design and interaction between EU agricultural policy, especially the CAP, enhances or constrains the resilience of farming systems. The central research question therefore is: **how does EU agricultural policy shape the resilience of European farming systems?** Four sub-questions guided the research and helped answering the central research question. These questions are addressed by combining insights from policy theory (e.g., public policy design, experienced policy effects, policy framing) with recent scholarship on resilience.

(1) *How do policy goals and instruments of the CAP 2013 reform, and its implementation in the Netherlands, support or constrain the resilience of a Dutch farming system?*

(2) *How do actors at the farming-system level experience the influence of policies on the resilience of farming system cases in Flanders, the Netherlands, Poland, Spain, and the UK?*

(3) *How is the concept of resilience framed in the CAP post-2020 reform process and which policy actors and stakeholders deploy these frames?*

(4) *What policy recommendations on how to improve the capability of the CAP to support the resilience of farming systems in the EU are preferred by stakeholders and policymakers?*

The research in this dissertation follows a qualitative research design, enabling in-depth exploration to the heart of the *why* and *how* policies influence the

resilience capacities of farming systems. Multiple methods for data collection and analysis were used to obtain complementary insights. A key aspect of the research is the use of a case study approach in which multiple farming system cases are systematically compared on similarities, differences, and patterns to infer links between policies and farming systems' resilience. This dissertation consists of a collection of four research chapters, each addressing a single sub-question.

**Chapter 2** introduces the ***Res****ilience* ***A****ssessment* ***T****ool* (ResAT) as a heuristic that offers an approach for assessing how policy goals and instruments of the CAP and its national implementations enable or constrain farming systems' resilience. The tool consists of three dimensions - robustness, adaptability, and transformability - with four indicators each. Robustness-enabling policies are characterised by (1) a *short-term focus* on recovery of existing functions of the system, (2) *protecting the status quo*, (3) providing *buffer resources,* and (4) government-supported *modes of risk management*. Adaptability-enabling policies are characterised by (1) a *focus on the medium term* (one to five years), (2) *flexibility* that allows for tailor-made responses, (3) they enable *variety* between and within farming systems, and (4) support *social learning*. Policies may enable transformability through (1) a *long-term focus*, (2) *dismantling incentives that support the status quo*, and (3) supporting *in-depth learning* and (4) *niche innovations*. The ResAT is applied to a Dutch intensive arable farming system case in *De Veenkoloniën* region. This chapter concludes that the CAP and its Dutch implementation strongly support the robustness of the intensive arable farming system case, but that the policy enables adaptability much less and rather constrains transformability. The chapter ends with a reflection on how the application of the ResAT can offer new insights into how EU agricultural policies influence the resilience of farming systems.

**Chapter 3** addresses how actors in five European farming system cases experience whether and how the CAP and relevant adjacent policies enable or constrain the

resilience of their respective farming system. The chapter presents the results of a bottom-up policy analysis based on 98 semi-structured in-depth interviews with a broad range of regional policymakers and stakeholders (e.g., farmers and farmers' representatives, agricultural advisers, representatives of agri-businesses and environmental NGOs). Subsequently, the findings of the interviews were reviewed in regional focus groups. The analysis found patterns between experienced resilience-effects of specific policy instruments and certain types of farming systems, revealing that intended resilience outcomes are not always achieved due to farming systems' characteristics or (historical) differences in national CAP implementations. Across the five farming systems, actors experienced the CAP and adjacent policies as affecting the resilience capacities of their respective farming system in uneven ways. Whereas actors felt that the policies were mostly supportive for the robustness of their farming systems, they experienced that the CAP is not successful in strengthening their farming systems' adaptability and transformability.

**Chapter 4** reconstructs how the concept of resilience is used in EU agricultural policymaking by specifically focusing on the framing of resilience in the CAP post-2020 reform process by policymakers and stakeholders. Five distinct ways of framing resilience were identified by analysing 123 policy documents of EU institutions and stakeholders related to the CAP post-2020 reform debate and the Farm-to-Fork Strategy: (1) *Income resilience frame*; (2) *Farmers' supply chain position resilience frame*; (3) *Climate change impact resilience frame*; (4) *Disease resilience frame*; and (5) *Ecological resilience frame*. The frame analysis showed that the resilience concept has been deployed by various policy actors and stakeholders involved in the CAP reform process. Whereas there seems to be broad consensus on the need for a resilient EU agricultural sector, actor groups varied in their preferred policy actions to strengthen resilience and promoted a variety of targets, challenges, purposes, and reasons. At the same time, the European Commission deployed elements of all five resilience frames in its CAP

and Farm-to-Fork communications. Despite differences in meanings attached to the resilience concept, the resilience frames that focused on short-term challenges and solutions were more dominant compared to frames that recommended adaptive practices or changes. The chapter concludes that the ambiguity of the resilience concept makes it possible for actors to reinforce a robustness-oriented approach under the label of being 'resilience-enhancing'. This requires a critically reflection on the introduction of resilience in the CAP post-2020 reform because the apparent consensus over resilience potentially introduces inconsistent and one-sided resilience-enhancing solutions.

**Chapter 5** identified opportunities on how to improve the capability of the CAP to better support the robustness, adaptability, and transformability of EU farming systems. This chapter describes the results of six national co-design workshops with agricultural policymakers and stakeholders and a final EU-level workshop with Brussels-based experts. The workshops were organised amid the CAP post-2020 reform process, which offered a fitting opportunity to engage with agricultural policymakers and stakeholders in different EU Member States to discuss and to co-design policy recommendations. The co-design workshops revealed overlap and variation in participants' ideas for resilience-enabling policies. The chapter concludes with a set of policy recommendations that could support robustness, adaptability, and transformability of EU farming systems:

- To *enhance robustness*, policies should aim to support farming systems' capabilities to respond to shocks and stresses. However, support for robustness should be limited to a guaranteed maintenance of a base for farming systems to fall back on during unforeseen crises, for uninsurable systemic risks and for perturbations that cannot be absorbed by the farming system alone. Robustness-oriented policies should increasingly focus on anticipation, guided by foresight assessments and exercises to find concrete responses to undesirable scenarios.

- To *enhance adaptability*, the CAP should continue to move away from means-oriented policies, providing farming systems actors with more flexibility to reach desired outcomes and to tailor the policies to the context-specific challenges and desirability. The CAP should improve the flexibility in its supportive policy schemes, and the monitoring and control schemes by introducing more flexible regulations and integrated inspections.
- To *enhance transformability*, the CAP should aim to determine a coordinated vision for the future of Europe's agriculture that gives directions towards the desired (near) future. Agricultural policies should increase stimulating deep learning and critical self-examination through, for example, cross-sectoral dialogues and co-design for unconventional innovations and uncommon but successful farming practices.

**Chapter 6** synthesises the results of the research chapters and presents the overall conclusion. EU agricultural policy, headed by the CAP, largely puts forth a one-sided way to strengthen resilience and, therefore, shapes the resilience of European farming systems with uneven and adverse effects. The policy mainly has a bias for a robustness-oriented approach to enhance resilience whilst limitedly supporting adaptability and transformability. The policy is focused on ensuring that farming systems can bounce back to a familiar situation after short-term shocks, particularly by resorting to familiar and conventional policy interventions. I argue that this one-sided approach towards resilience is explicable since the resilience concept is mainly used as a politically strategic discursive device rather than a genuine policy objective in EU agricultural policymaking. The findings suggest that EU agricultural policy lacks a comprehensive understanding of resilience and, therefore, cannot sufficiently or equally support all three resilience capacities of farming systems in their different contexts. Shaping resilient EU farming systems therefore requires a redesign of EU agricultural policy based on a better balance between robustness-, adaptability-, and transformability-

enhancing goals and instruments. Whereas the CAP post-2020 reform and the EU's Green Deal introduce new policy goals and instruments, it remains to be seen whether and how these will support the resilience of farming systems. This dissertation ends with the argument to politicise the resilience debate for agricultural policymaking and opening up the debate to a broader array of actors. It will be key to this debate to explicitly address that building resilience unavoidably involves controversy, policy trade-offs, and that people are aware that they are discussing resilience in different ways, potentially increasing the legitimacy for the chosen pathways towards resilience.

# About the author & publications

**Yannick Buitenhuis** was born on December 14, 1993 in Apeldoorn, the Netherlands. After graduating from high school at *Veluws College Walterbosch*, he obtained a BSc degree in Human Geography and Planning, Utrecht University (2015) and a MSc degree in Environmental Sciences, Sustainable Development: Earth System Governance, Utrecht University (2017). For his master's thesis, he conducted research on the necessary governance conditions for successful ecological restoration of estuaries, combined with an independent research internship at the World Wide Fund for Nature (WWF) – The Netherlands.

In March 2018, Yannick started as a PhD candidate at the Public Administration and Policy group of Wageningen University. He also joined the research consortium of the SURE-Farm project (Towards **Su**stainable and **Re**silient EU **Farm**ing systems) funded by the European Union's Horizon 2020 programme. His PhD research focused on the influence of public policies, in particular the EU's Common Agricultural Policy (CAP), on the resilience of farming systems.

During his PhD research, Yannick has been the PhD representative at the Public Administration and Policy group as well as at the Wageningen Centre of Sustainable Development. He has also been a member of the WASS PhD Council and the Wageningen PhD Council, representing PhD interests at the university and organising activities and events for PhD candidates. Additionally, Yannick became a track member at The West Wing Think Tank, the youth think tank created by the Dutch Ministry of Foreign Affairs.

In April 2022, Yannick started working at the Province of *Overijssel* as technical advisor on the development and management of Natura2000 protected areas.

# Publications

## *Peer-reviewed publications*


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**Buitenhuis, Y.** (2021, 15 June). Europa moet de landbouw veerkrachtiger maken. NRC. Available at https://www.nrc.nl/nieuws/2021/06/15/europa-moet-de-landbouw-veerkrachtiger-maken-a4047341.

# Education certificate graduate school

**Yannick Buitenhuis**
**Wageningen School of Social Sciences (WASS)**
**Completed Training and Supervision Plan**


| Name of the learning activity | Department/Institute | Year | ECTS* |
|---|---|---|---|
| **A) Project related competences** | | | |
| **A1 Managing a research project** | | | |
| WASS Introduction Course | WASS | 2018 | 1.0 |
| Scientific Writing | Wageningen In'to Languages | 2018 | 1.8 |
| The Essentials of Scientific Writing | Wageningen In'to languages | 2018 | 1.2 |
| Writing research proposal | WUR | 2018 | 6.0 |
| *'Assessing the Impact of Public Policy on the Resilience of Farming Systems: A Case Study of the EU's Common Agricultural Policy and its Implementation in the Netherlands'* | ECPR | 2019 | 1.0 |
| *'Analysing Public Policies for Resilient Farming systems: Applying the ResAT on arable farming system case in 'De Veenkoloniën'* | EAAE | 2019 | 1.0 |
| *'Improving resilience-enabling capacity of the Common Agricultural Policy: policy recommendations for more resilient EU farming systems.'* | WASS PhD day | 2020 | 0.5 |
| **A2 Integrating research in the corresponding discipline** | | | |
| Academic Publication and Presentation in the Social Sciences | WASS | 2020 | 4.0 |
| Food, Agriculture & Circular Bio Economy (FACBE) Journal Club | PAP/WCSG | 2020-2021 | 2.25 |
| Policy Agenda Setting and Issue Framing (PAP-52306) | WUR | 2021 | 6.0 |
| **B) General research related competences** | | | |

| | | | |
|---|---|---|---|
| **B1 Placing research in a broader scientific context** | | | |
| Brain training | WGS | 2018 | 0.3 |
| Classics in Public Administration and Political Sciences | NIG | 2018 | 4.0 |
| Reviewing a Scientific Manuscript | WGS | 2020 | 0.1 |
| Policy researcher, track member *'Central Europe Department'* (DEU-Mid). | The West Wing | 2021-2022 | 2.0 |
| **B2 Placing research in a societal context** | | | |
| Writing newspaper article '*Europa moet de landbouw veerkrachtiger maken'* | NRC | 2021 | 1.0 |
| | | | |
| **C) Career related competences/personal development** | | | |
| **C1 Employing transferable skills in different domains/careers** | | | |
| Teaching 'Studying Public Governance: Key concepts and Leading Authors' | PAP | 2019-2021 | 2.0 |
| Starting to Teach | WGS | 2019 | 1.0 |
| PhD representative for PAP and Cluster WCSG | PAP/WCSG | 2019-2020 | 0.5 |
| WASS PhD Council | WASS | 2020-2022 | 2.0 |
| Wageningen PhD Council (WPC) | WUR | 2020-2021 | - |
| Career Perspectives | WGS | 2021 | 1.6 |
| **Total** | | | **39.25** |

*One credit according to ECTS is on average equivalent to 28 hours of study load

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Cover

Le Chêne et le Roseau (The Oak and the Reed). Michallon, Achille Etna (French, 1796-1822). The Fitzwilliam Museum, Cambridge.



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