

# **The Institutionalization of Agroecology through the Agroecological Project for France**

A case study on Normandy's Organic Farming Community: Dynamics  
and Implications for an Agroecological Transition.

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## **Abstract**

Increasing issues related to agriculture are being identified. To counter these issues, some type of methods of agriculture are being introduced and reintroduced, such as agroecology. With its focus on practices, sciences and social movement, agroecology is considered as a promising solution to bring a paradigm change to agriculture as we know today and to provide better quality food, produced in better environment in more fair conditions. Some countries have been institutionalizing agroecology to make it more widespread, this is the case of France, with the Agroecological Project for France (APF). This policy wished to enhance an agroecological transition in the biggest agricultural producer in Europe, bringing together farmers in collective project, or actively reducing the use of pesticides. Therefore, this thesis aims at understanding what the goals behind the APF were and how this policy has been perceived by the farmers since its implementation, as well as to identify potential enablers and drawbacks to institutionalization of agroecology. To do so, this study is a case study of organic farmers in the Normandy region, in France, looking at farmers' perspectives and engagements linked to the APF through semi-structured interviews. The findings on this topic are that the perception of the farmers is overall quite negative, thinking that this policy did not achieve its intended goals and that the farmers did not feel sufficient support for this transition. Some enablers were identified to facilitate the institutionalization and the implementation of agroecology, such as more financial aids, group effect, communication to consumers, and organic farming and practices. On the other side, barriers were identified, such as time and staff related constraints, financial constraints, adoption of practices, institutional instability, conflicting views on agroecology and communication of agroecology in a broader sense. Therefore, the conclusions are that agroecology can serve as a good tool for a more sustainable food system and its institutionalization can serve as a good way to enhance it, however, it needs to come with a broader food production paradigm change, aiming at a model less oriented towards productivity and gains, but on community, local production and sharing.

**Keywords:** agroecology, institutionalization, Agroecological Project for France.

## **Executive Summary**

This thesis examines the transition to a more sustainable and resilient food system through the institutionalization of agroecology, using the Agroecological Project for France (APF) as a case study. Implemented in 2012 by former Minister of Agriculture Stéphane Le Foll, the APF promotes agroecological practices and supports French farmers across ten key areas.

The primary objective of this thesis is to assess whether institutionalizing agroecology can create a more sustainable and resilient food system. The research explores the APF's implementation, and organic farmers' perceptions. It aims to determine how this model can enhance soil regeneration, improve product quality, increase biodiversity, and foster community values and cooperation. The findings will inform policy development for agricultural transformation at various levels.

### **Aim and Research Questions**

This thesis aims to assess the implementation and outcomes of the APF and explore the scalability of similar policies. The research examines organic farmers' perceptions to determine the APF's communication and acceptance, identifying disparities between the policy's objectives and real-world impact. Additionally, it explores the underlying goals of the APF and identifies enablers and barriers to agroecological transition, focusing on farmers' perspectives, engagement, and knowledge related to the policy.

This research aim will be addressed by answering the following research questions that will guide this research:

**RQ1: How did the APF intended to advance agroecology in France?**

**RQ2: How is the APF communication perceived, understood, and implemented by organic farmers in Normandy?**

**RQ3: What are the barriers and enablers for farmers to implement agroecology and for the success of the APF?**

### **Conceptual framework**

This thesis is grounded in two theories: institutionalization theory (Bellon & Ollivier, 2018) and agroecological transition theory (Ong & Liao, 2020). Institutionalization theory describes the gradual process of creating stable relationships and shared norms among actors, which leads to the formal recognition and support of agroecology within policy frameworks. This involves shifts in the understanding and practice of agroecology. Agroecological transition theory, rooted in complex systems and critical transition theory, focuses on the socio-ecological transition required for effective agroecology, emphasizing ecological and socio-political constraints.

The conceptual framework, based on the DPSIR model, links driving forces (agriculture), pressures (resource use, intensive farming), state (soil health, biodiversity), impacts (ecosystem resilience, health, yields), and responses (policy changes, research, education). This framework is adapted to analyze the APF, focusing on the response part, that is the policy feedback, farmers' perceptions, and practical applications to understand the potential for institutionalizing agroecology.

### **Methodology**

This study employs qualitative research methods to explore stakeholders' perspectives on the APF. The research design includes a comprehensive literature review and interviews with farmers to address specific research questions. The case study approach focuses on understanding the APF's development within its environmental context. Semi-structured interviews with organic-certified farmers in Normandy serve as the primary data source.

The literature review identifies relevant documentation on agroecology and its institutionalization, framing the research problem. The APF is analyzed in detail to understand its principles and objectives, distributed into agroecology categories: social movements, practices, and scientific foundations.

Eight interviews, sufficient for data saturation, were conducted alongside observations. Data were manually coded in Excel, following a five-step process: organizing and preparing data, reviewing for insights, inductive coding, generating descriptions and themes, and representing findings narratively. This methodology ensures a thorough analysis of farmers' perspectives and the APF's impact.

### **Findings and Analysis**

The APF, aimed at achieving high economic and ecological performance, played a pivotal role in guiding agricultural policy towards sustainable practices and allows to integrate agroecology into policy, fostering innovation for sustainable agriculture. The Minister's leadership positioned France as a global leader in agroecology.

However, based on interviews, the overall outlook on the APF among farmers is predominantly negative, reflecting dissatisfaction and skepticism. Many farmers are unaware of its initiatives, highlighting a communication gap between policymakers and practitioners. Those familiar with the APF criticize its slow and inadequate implementation, stressing the urgency of addressing environmental challenges. Farmers also point out contradictions in agricultural policies, balancing productivity with sustainability as well as disparities in support within the APF. Despite some optimism about the APF promoting agroecological transition, the prevailing sentiment is negative, indicating a need for comprehensive reform of French Agriculture.

Some achievements of the APF were however noted, such as the growth of EEIGs and increased public discourse on agroecology. Nevertheless, farmers perceive the APF as more of a government communication tool than a catalyst for tangible improvement, with resistance from agricultural syndicates, chemistry companies, and agri-food businesses impeding progress. This analysis underscores the challenges in aligning policies with practical realities, highlighting the need for sustained political will and stakeholder cooperation to institutionalize agroecology effectively. The study reveals a complex landscape of enablers and barriers, emphasizing the need for inclusivity, cooperation, and equitable policies to transform French agriculture towards sustainability and resilience.

### **Conclusions and Recommendations**

The APF aimed to revolutionize French agriculture, integrating twelve components like enhanced support, and agroforestry. This policy reflected France's commitment to sustainable agriculture, culminating in the "Law for the Future of Agriculture", bringing to legislation the definition of agroecology. However, challenges persist, including institutional resistance and communication gaps.

In response to RQ1, the APF embodied a holistic approach to agricultural transformation, encompassing components such as ecological engineering, pesticide reduction, and agroforestry. Inspired by international research, the APF aimed to redefine agricultural practices and instill agroecological principles into agricultural education.

Regarding RQ2, perceptions of the APF varied among organic farmers in Normandy. While some embraced its principles, others remained skeptical, fearing greenwashing or marketing ploys. Enablers such as collective initiatives and local networks bolstered transition efforts, but clear policy definitions and economic incentives are essential for success. Discrepancies in understanding and implementing the APF highlight the need for improved communication and education strategies.

Finally, RQ3 examined the enablers and barriers faced by farmers in implementing agroecology and adhering to APF guidelines. The study conducted among organic farmers in Normandy revealed a complex landscape influenced by various factors. Enablers such as collective initiatives and strong local networks, showcased the power of collective action in bolstering agroecological resilience, further facilitating knowledge exchange and support for transitioning farmers. However, significant barriers persist. Institutionalizing agroecology within legislative frameworks and providing economic incentives remain critical for the success of APF. Moreover, ambiguity surrounding agroecology's definition and integration into institutional frameworks necessitates clear policy definitions and robust support mechanisms. Finally, challenges arise from systemic resistance from dominant agricultural syndicates and agri-food businesses. Addressing these challenges requires not only overcoming communication gaps but also implementing policies that foster inclusivity, cooperation, and equitable outcomes.

To succeed and go further, the APF must overcome these barriers and capitalize on enablers, fostering a transformative shift towards sustainability and resilience in French agriculture. Policymakers and practitioners should prioritize inclusive and cooperative policies while reevaluating production models and systemic changes. This means prioritization of smaller-scale farms and diversified production methods, as well as promoting localized, respectful, and synergistic agricultural practices that honor the labor of farmers and the surrounding ecosystems. Finally, there is a need to learn from the agroecological models prevalent in the Global South, such as in Brazil, Cuba, or Togo. These efforts will not only benefit French agriculture but could also serve as a model for global agricultural sustainability.

Future research should broaden its scope to encompass diverse farmer perspectives, consumer readiness, and the scalability of agroecological policies internationally. Understanding these dynamics will be crucial for fostering a global transition towards sustainable food systems, ultimately positioning France as a leader in equitable agriculture while inspiring similar initiatives worldwide.

# Table of Contents

<b>ACKNOWLEDGEMENTS</b> .....	<b>I</b>
<b>ABSTRACT</b> .....	<b>II</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>III</b>
<b>TABLE OF CONTENTS</b> .....	<b>VI</b>
<b>LIST OF FIGURES</b> .....	<b>VIII</b>
<b>LIST OF TABLES</b> .....	<b>VIII</b>
<b>ABBREVIATIONS (IF REQUIRED)</b> .....	<b>VIII</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
1.1 BACKGROUND .....	1
1.2 PROBLEM DEFINITION .....	2
1.3 AIM AND RESEARCH QUESTIONS .....	3
1.4 SCOPE AND DELIMITATIONS .....	3
1.5 ETHICAL CONSIDERATIONS .....	4
1.6 AUDIENCE .....	4
1.7 DISPOSITION .....	4
<b>2 BACKGROUND</b> .....	<b>6</b>
2.1 CURRENT KNOWLEDGE RELATED TO AGROECOLOGY .....	6
2.1.1 <i>Current challenges related to food systems</i> .....	6
2.1.2 <i>Definition of agroecology</i> .....	7
2.1.3 <i>Expected benefits from Agroecology</i> .....	8
2.2 BACKGROUND FOR FRENCH AGRICULTURE .....	9
2.2.1 <i>France as a choice: relevance at a global level</i> .....	9
2.2.2 <i>Environmental impact of conventional agriculture in France</i> .....	10
2.2.3 <i>Organic farming in France and its relation to agroecology</i> .....	10
2.2.4 <i>French farmer's situation today</i> .....	11
<b>3 LITERATURE REVIEW</b> .....	<b>12</b>
3.1 EXPECTED BENEFITS OF THE INSTITUTIONALIZATION OF AGROECOLOGY .....	12
3.2 ENABLERS TO IMPLEMENTATION OF AGROECOLOGY .....	13
3.2.1 <i>Institutionalization and Collaboration</i> .....	13
3.2.2 <i>Advocacy by social movement: Resistance, Gender Equality and Social Justice</i> .....	14
3.2.3 <i>Policy Tools and Economic Incentives</i> .....	14
3.2.4 <i>Technological, research support and education</i> .....	15
3.3 BARRIERS TO IMPLEMENTATION .....	15
3.3.1 <i>Definitional Inconsistencies</i> .....	15
3.3.2 <i>Conflicting Views on Agroecology's Role</i> .....	16
3.3.3 <i>Political and Financial Instability</i> .....	16
3.4 THE STATE OF AGROECOLOGY IN FRANCE TODAY .....	17
3.5 THEORIES, TENTATIVE EXPLANATION, AND CONCEPTUAL FRAMEWORK IN RELEVANCE TO AGROECOLOGY .....	18
3.5.1 <i>Institutionalization theory and agroecological transition theory</i> .....	18



3.5.2	<i>DPSIR conceptual framework</i> .....	18
<b>4</b>	<b>RESEARCH DESIGN, MATERIAL, AND METHODOLOGY</b> .....	<b>20</b>
4.1	RESEARCH DESIGN.....	20
4.2	METHODS USED TO COLLECT DATA .....	21
4.2.1	<i>Method used for literature review</i> .....	21
4.2.2	<i>Methods for analysis of the APF</i> .....	22
4.2.3	<i>Methods for interviews and observation</i> .....	22
4.2.4	<i>Choices of organic farmers</i> .....	22
4.3	MATERIAL COLLECTED.....	23
4.4	METHODS USED TO PROCESS INFORMATION.....	23
<b>5</b>	<b>FINDINGS AND ANALYSIS</b> .....	<b>24</b>
5.1	CURRENT KNOWLEDGE RELATED TO THE APF.....	24
5.1.1	<i>The design of the APF</i> .....	24
5.1.2	<i>The twelve components of the APF</i> .....	25
5.2	ENGAGEMENT AND PERCEPTION OF THE APF.....	29
5.2.1	<i>Engagement in sustainable practices</i> .....	29
5.2.2	<i>Knowledge and perception of agroecology</i> .....	30
5.2.3	<i>Engagement with the APF</i> .....	32
5.2.4	<i>Overall perception on the APF</i> .....	35
5.3	IMPLEMENTATION OF THE APF.....	36
5.4	ENABLERS AND BARRIERS FOR IMPLEMENTATION OF AGROECOLOGY WITH THE APF .....	36
5.4.1	<i>Enablers for implementation of agroecology with the APF</i> .....	37
5.4.2	<i>Barriers to implementation of agroecology with the APF</i> .....	39
5.5	SUMMARY .....	42
<b>6</b>	<b>DISCUSSION</b> .....	<b>44</b>
6.1	DISCUSSION OF THE SIGNIFICANCE OF THE RESULTS COMPARED TO WHAT WAS ALREADY KNOWN 44	
6.1.1	<i>Discussion around the APF intentions</i> .....	44
6.1.2	<i>Discussion around farmers' perception on the APF</i> .....	45
6.1.3	<i>Discussion around the enablers and barriers to implementation of agroecology</i> .....	46
6.2	LIMITATION AND REFLECTIONS ON THE RESULTS OF THE STUDY.....	48
<b>7</b>	<b>CONCLUSIONS</b> .....	<b>49</b>
7.1	EMPIRICAL CONCLUSIONS .....	49
7.2	RECOMMENDATIONS FOR POLICY MAKERS AND PRACTITIONERS .....	50
7.3	RECOMMENDATIONS FOR FUTURE RESEARCH .....	51
	<b>BIBLIOGRAPHY</b> .....	<b>52</b>
	<b>APPENDICES</b> .....	<b>59</b>

## **List of Figures**

Figure 2-1: Simplified summary of Agroecology .....	8
Figure 2-2: Word Cloud of agroecology. ....	8
Figure 3-1: DPSIR Conceptual framework .....	19
Figure 5-1: DPSIR framework - Including RQs answers.....	43

## **List of Tables**

Table 4-1: Research questions, associated methods, and purpose.....	21
Table 5-1: Summary of the APF.....	25

## **Abbreviations**

APF: Agroecological Project for France

CAP: Common Agriculture Policy

EU: European Union

FAO: Food and Agriculture Organization

FNSEA: Fédération nationale des syndicats d'exploitants agricoles

GHG: Green House Gas

HEV: High Environmental Value label

HLPE: High Level Panel of Experts

IPCC: Intergovernmental Panel on Climate Change

MAEC: Measure for Agri-Environmental Climate

PCAE: Plan for the Competitiveness and Adaptation of Agricultural Holdings

SDGs: Sustainable Development Goals

# 1 Introduction

## 1.1 Background

### **Agriculture related issues**

The most recent reports from the Intergovernmental Panel on Climate Change (IPCC) shows that anthropogenic climate change requires urgent actions (IPCC, 2022). The contemporary agricultural, land-use change, and forestry sectors represent a significant contributor to climate change, accounting for approximately 27% of the global greenhouse gas (GHG) emissions (Ahmed et al., 2020; IPCC, 2022). The prevailing agricultural system is regarded as unsustainable, given the depletion of soil nutrients, the decline in biodiversity, the contamination of waterways with chemical residues, and the overconsumption of resources (water, energy, food waste) (Bjørnåvold et al., 2022; Wezel & David, 2020). Moreover, agriculture is contributing to the transgression of the planetary boundaries as defined by Rockström et al., 2009. These boundaries were established to delineate a safe operating space for the current system in relation to climate change and environmental impacts. In fact, it contributes to exceed the safe operating space of seven out of nine boundaries, which are biosphere integrity (genetic and functional), climate change, novel entities (phosphorus and nitrogen), freshwater change (blue water and green water) and land-system change (Richardson et al., 2023; Rockström et al., 2009). The predominant agricultural model represents a multifaceted crisis that affects global populations. Agriculture is a crucial aspect of life on Earth, as it is responsible for feeding populations. Additionally, it is one of the most significant sources of employment worldwide, with one out of every four people engaged in farming globally (Ahmed et al., 2020).

The current agricultural system, focused on high productivity, evolved from two key revolutions. The second, prominent in shaping modern agriculture, occurred in the 20th century. It introduced technological and chemical innovations, significantly increasing field productivity (Regnault et al., 2012). Following the World Wars, the global population required means to increase food production. This led to a significant increase in yields between the 1940s and 1960s, facilitated by the introduction of pesticides, tractors and the removal of hedges (Denhez, 2018). A third agricultural revolution has been anticipated, made possible by the growing adoption of biotechnologies. These technologies are designed to ensure the sustenance of an estimated nine to ten billion people by 2050, while simultaneously avoiding further environmental or social detriment (Ahmed et al., 2020; Regnault et al., 2012; Wezel & David, 2020). These revolutions the capacity of our societies to adapt in response to crisis or emerging needs, through the introduction of novel innovations, the adaptation of new technologies and the implementation of new methods to feed us.

### **Alternatives for conventional agriculture model**

To address these challenges, some agricultural practices and systems, developed in the pre-industrial era and already employed in less industrialized countries (Anderson & Maughan, 2021a; Wezel & David, 2020) are now being reconsidered. These include organic farming, regenerative agriculture, and agroecology.

One such method is agroecology, which can be briefly defined as a set of practices that use a holistic approach and an alternative paradigm to mitigate damage, especially environmental damage, through the implementation of specific practices and the promotion of a continuous transition to sustainable agriculture (Bellon & Ollivier, 2018; FAO, 2018b). This transition is to be achieved with a strong emphasis on community involvement, social movements, scientific research and the integration of different practices (Ajates Gonzalez et al., 2018; Doré & Bellon, 2019; FAO, 2019). Agroecology represents a promising approach, as it applies ecological

principles based on natural cycles to mitigate the negative environmental effects of conventional agriculture (Ajates Gonzalez et al., 2018; HLPE, 2019). It incorporates ethical and social justice components, promoting a model that can feed as many people as conventional agriculture while reconnecting agriculture, the environment, and society (Lampkin et al., 2020).

In an effort to expand the adoption of agroecological practices, several countries have enacted policies designed to promote agroecology. The initial policies were primarily established in Caribbean states and Latin America (Lampkin et al., 2020). The French government also resolved to institutionalize it, thereby becoming the inaugural European country to implement a policy for agroecology and to enshrine an official definition within its legislation (Lampkin et al., 2020; Schnyder, 2022). The Agroecological Project for France (APF)—in French, *Le Projet Agroécologique pour la France*—also known as the “Produce Differently” plan, was first implemented in 2012. It was revised in 2016 with 12 key points and axes for work. (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2014, 2016). The objective of this policy was to provide support for and extend the agroecological transition in the largest agricultural producer in Europe, while achieving high economic and environmental performance (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2014, 2022).

## 1.2 Problem definition

However, as evidenced by the experiences of farmers in France and Europe in 2024, the anticipated improvements in work conditions and revenues have not been embodied. Moreover, the shift towards agroecology has not yielded the anticipated outcomes. One of the primary arguments put forth by farmers is that the environmental regulations are excessively burdensome, given that they lack the necessary financial resources to comply with these regulations and fulfill their associated tasks (Trompiz et al., 2024).

Moreover, the theoretical nature of agroecological concepts and the diversity and sometimes unclear definitions of these concepts (Ajates Gonzalez et al., 2018; Giraldo & Rosset, 2018; Lampkin et al., 2020) present challenges to their practical application. Moreover, there has been a dearth of incentives and policies at the global level to encourage the adoption of such practices (Lampkin et al., 2020). Consequently, given that it may not be widely disseminated and well-known, it is possible that stakeholders may find it challenging to comprehend the implications of agroecology and the manner in which they can implement it. Moreover, farmers are already confronted with numerous challenges in the conventional farming sector, which makes the implementation of new practices, which may entail financial uncertainties, an additional burden (Gramond, 2015).

Theoretical complexities and a scarcity of global incentives and policies present significant barriers to the widespread adoption of agroecology, complicating efforts to transition away from conventional farming practices. Despite the French government's implementation of the APF over twelve years ago, tangible changes in agricultural practices and outcomes have remained elusive. This lack of discernible progress highlights a significant research gap regarding farmers' perceptions of the APF. It is therefore essential to gain an understanding of how farmers interpret and engage with this policy in order to inform strategies to enhance its effectiveness and uptake. Consequently, it is of the utmost importance to conduct comprehensive research on the communication and reception of the APF among farmers. Such insights can inform policymakers in refining communication strategies, addressing implementation challenges, and ultimately advancing the agroecological transition in France.

This topic is of significant importance since it bridges the research gap on farmers' perception of this policy. It also provides insights about the primary stakeholders concerned by it. Consequently, it allows for feedback on the policy and the possibility of improving it or creating similar policies at a more widespread level.

### 1.3 Aim and research questions

To understand the potential impact of an agroecological policy such as the APF on the agricultural landscape, it is crucial to assess its implementation and impact as perceived by farmers. Indeed, without a continuous look at the policy after its implementation, it can be difficult to determine its effectiveness and acceptance, hindering the potential replication of similar policies. It is also crucial to have the viewpoints from the stakeholders that are directly affected by the APF, the farmers. Therefore, this thesis will look at institutionalization of agroecology through the APF, identifying any disparities between the policy's objectives and how it's perceived and embraced by French farmers.

The aim of this thesis is to explore the underlying goals behind the APF, understand farmers perception of the APF since its implementation. Additionally, it aims at identifying enablers and barriers to enhance agroecological transition with the APF. To do so, the focus is on farmers' perspectives and engagements linked to this policy, as well as their knowledge related to it.

This research aim will be addressed by answering the following research questions that will guide this research:

**RQ1: How did the APF intended to advance agroecology in France?**

**RQ2: How is the APF communication seen, understood, and implemented by organic farmers in Normandy?**

**RQ3: What are the barriers and enablers for farmers to implement agroecology and for the success of the APF?**

### 1.4 Scope and Delimitations

This empirical study is focused on the APF. Therefore, the data collected is focused on that specific policy in the geographical scope of France. All of the interviews and observations has happened in the Normandie region, in France. The choice of this geographical area is explained by the fact that Normandie is a region with a dynamic and diverse agriculture, which covers 70% of its lands, with animal breeding, cereals, oilseed, fruits, and vegetable production, among other productions (Région Normandie, 2024). Additionally, the choice of this geographical area is mainly for logistic reasons, that is that the author's home region. The geographical choice is also influenced by the language ease. The ability to converse about specific and technical topics is facilitated by the shared language of the farmers and the researchers. Therefore, this have been an advantage for approaching the farmers and other stakeholders linked to this policy since the language barrier was eliminated. Therefore, this study does not include information about others region of France.

In order to complete this study, eight interviews were conducted. All interviewees are farmers engaged in the production of various agricultural products (cereals, fruits, vegetables, milk, meat) using EU organic labeling guidelines to gain a comprehensive understanding of the diverse range of organic farming practices present in the region and their concerns regarding the APF. The choice for these interviewees is further explained in Chapter 4.2.4. Consequently, the present study excludes conventional farmers who are not engaged in farming activities in accordance with the EU organic labeling guidelines.

The present study employs a qualitative methodology, with data collected through interviews conducted over a two-month period, from March to April 2024. The data collected for the literature review includes data from the creation of the APF, which commenced in 2012 and continues to the present day. It also encompasses the most recent policies and plans for agriculture.

## 1.5 Ethical Considerations

This study was self-funded, ensuring the researcher's independence and integrity. There were no external influences or pressures affecting the research process, and all interviewees volunteered for interviews as emphasized by Creswell & Creswell, 2018. Before embarking on the qualitative interviews, each participant was provided with a comprehensive informed consent and participation process. This involved the interviewees to be given a thorough explanation of the research project's objectives and their voluntary participation. The consent form detailed measures to protect privacy and confidentiality. Participants were assured of their right to access their data and withdraw from the study within a specified timeframe, aligning with ethical standards.

Throughout the duration of the study, an emphasis was placed on ensuring the privacy and well-being of the participants, aligning with the principles advocated by Creswell & Creswell, 2018. Measures were taken to prevent harm from participants' involvement. Moreover, interviewees' names were replaced with non-identifiable codes to maintain anonymity. Recording files were deleted after transcription, and transcripts were securely stored on a password-protected hard drive. The study adhered to ethical standards to avoid findings that could harm participants or create false expectations. Interviewees received a consent form outlining the project's context and their rights as participants before the interview (Appendix 1).

## 1.6 Audience

The findings of this study are expected to be useful for the academic research community, which may focus its attention on sustainable agriculture, agroecology, policy, or at the intersection of all these topics. This thesis contributes to the emerging discussion on the institutionalization of agroecology.

The second core audience is comprised of policy makers at various governance levels (local, municipal, regional, state, national or even EU-level) who are engaged in the study and implementation of agroecology and sustainable agriculture related topics. The findings of this study may be used to inform the development of policy at other levels in different contexts. Alternatively, this study can be used to identify lessons learned from the implementation of the APF.

Finally, the findings could also be utilized by farmers and stakeholders in the agricultural industry to gain insights into the APF and the perceptions of other farmers. This could potentially lead to identification of solutions for their own farms or to the generation of insights regarding improvements at the farming level.

## 1.7 Disposition

**Chapter 1 (Introduction)** introduces the research topic and background about agriculture and related negative effect on the environment. It is followed by an explanation of the scope, ethical considerations, and the audience of the study.

**Chapter 2 (Background)** presents a more in-depth background about the current state of agriculture in globally and in France.

**Chapter 3 (Literature Review)** synthesizes a literature review on the institutionalization of agroecology, its benefits as well as enablers and barriers to its implementation. This part is followed by a conceptual framework based on the DPSIR framework, as well as the theories related to the study.

**Chapter 4 (Research Design Material and Methodology)** shows the research design of the study, the research design, as well as methods used for data collection and analysis.

**Chapter 5 (Findings and Analysis)** presents the results and analysis of the main findings of the study to answer the RQs of this study.

**Chapter 6 (Discussion)** brings a discussion around the main results of this study, especially in the context of the existing literature, as well as the methodological choices and limitations of this study.

**Chapter 7 (Conclusions)** outlines empirical conclusions on the study, summarizing the answers to the RQs, as well as practical application for further research.

## 2 Background

This section outlines key background details on the current knowledge about challenges that agroecology aims to counter, followed by definitions of agroecology that are given in the analyzed literature. A second part will focus on the specific case of France, since this is where the APF was established, highlighting the relevance of France in the global and European agriculture landscape. The focus here is on aspects most pertinent to this thesis, rather than offering an exhaustive review of agroecology.

### 2.1 Current knowledge related to agroecology

#### 2.1.1 Current challenges related to food systems

Agriculture is a crucial aspect of life on Earth, as it enabled human societies to feed our current population at a larger scale following two agricultural revolutions. This has led to the development of more productive agricultural practices, including the shift to a low-labor, high-input, and monoculture type of production (Ong & Liao, 2020; Regnault et al., 2012).

However, even if agriculture globally, agriculture sustains economies and feeds populations, it faces pressing challenges. Research, including reports from the Intergovernmental Panel on Climate Change (IPCC), highlights the system's unsustainability. It contributes to environmental degradation, air and water pollution, biodiversity loss, and greenhouse gas emissions (Ahmed et al., 2020; FAO, 2018b; IPCC, 2022). The challenges posed by climate change and biodiversity loss raise existential concerns for agricultural, fishing, and forestry sectors, which face a series of extreme weather events (storms, droughts) and health crises (epidemics and pests), thus questioning the prevailing agricultural model since the 1960s (Lampkin et al., 2020; Wezel & David, 2020). In recent decades, research has increasingly linked pesticides to environmental contamination, biodiversity decline, and health risks (BALDI et al., 2021; Bjørnåvold et al., 2022). This consumption of pesticides is also related to fertilizers and modern crop varieties, that are still highly subsidized in several contexts of contexts (HLPE, 2019). Countries like France have responded with policy measures to promote sustainable agricultural practices and address these concerns (Bjørnåvold et al., 2022).

Modern agriculture is an important contributor to GHG emissions, representing an estimated 27% of global emissions (Ahmed et al., 2020; IPCC, 2022). Most of these emissions originate from cattle and dairy cows, with high emissions of methane, which contributes to climate change at a much faster rate than carbon dioxide (Ahmed et al., 2020; IPCC, 2022). Adding on to direct emissions linked from agriculture at global scale, deforestation, which happens for instance when farms are expanding their surface, is also an important contributor to global GHG emissions, with up to 10% of global emissions (Ahmed et al., 2020; Duru & Le Bras, 2020; IPCC, 2022).

Social concerns are also emphasized by several issues related to climate change and the impacts of agriculture. A number of those issues are associated to food scarcity, insecurities, and access to food more generally (Wezel & David, 2020), and these issues are expected to deepen in the years to come, adding up to an increasing population (IPCC, 2022). Moreover, there has been a proliferation of discourse on social issues pertaining to the remuneration of farmers on a global scale as well as critics over recent inflation. This was evidenced by the social movements that started in Europe at the beginning of 2024 (Trompiz et al., 2024). One of the factors for the lack of fair remuneration, is that modern agriculture's large-scale conventional farming methods have led to over-volatile food prices, particularly impacting less-developed nations (Ong & Liao, 2020). Therefore, farmers, especially small-scale farmers, who utilize purchased inputs are more susceptible to debt, and climate change can exacerbate the risks associated with crop failures (HLPE, 2019). This shift also erodes direct farmer-consumer connections, favoring mega-size



corporations and undermining small-scale and family-operated farms globally (Ong & Liao, 2020).

Therefore, our agricultural systems call for a transition to a system that reduces consumption of natural resources and adapts to climate change effects while keeping profitability of farms (Cour des Comptes, 2021; Doré & Bellon, 2019; FAO, 2018b). Despite the acknowledgement of a the necessity of novel agricultural methods, there are several ongoing intense debates over the optimal model for transition (Ong & Liao, 2020). Agroecology has been presented as a suitable solution for an alternative paradigm and management of cultivated lands (Bellon & Ollivier, 2018; de Molina, 2012; FAO, 2018b; Ong & Liao, 2020). While agroecology should not be limited to identifying unsustainable elements in the current system, it is a call for responsible, effective and just governance towards a transition into a sustainable food and agricultural system (de Molina, 2012; FAO, 2018b). According to Doré & Bellon, 2019, the emerging discourse aims not only to alleviate the negative impacts of specific agricultural practices on the environment but also to conceive and endorse alternative approaches for development, encompassing what is presently termed as 'transitions' (Doré & Bellon, 2019).

### **2.1.2 Definition of agroecology**

The concept of agroecology was first developed between the 1930s and the 1960s, followed by a wider expansion and diverse interpretations starting from the 1970s (Doré & Bellon, 2019). This led to the emergence of agroecology as both a movement and a scientific discipline, encompassing a set of practices (Bellon & Ollivier, 2018; Wezel & David, 2020). In the 2000s, it started to get more widespread due to the effort of farmers associations. Later, the Rome Symposium on agroecology organized by the FAO in 2014 and launched by France facilitated collaboration between countries enabling the sharing of best practices, formation of partnerships and enhancing support to the FAO on their project (Doré & Bellon, 2019). This quote from Bjørnåvold et al., 2022 effectively encapsulate the overarching meaning of agroecology:

*“The term agroecology has been used for many decades, and was mainly used in purely scientific domains to begin with, but has evolved to denote ecologically sound agricultural practices encompassing social and economic dimensions from food sovereignty to the entire food system” (Bjørnåvold et al., 2022, p2)*

Adding up to that quote, agroecology can be defined in short as a set of practices that uses a holistic approach to limit damages, especially environmental ones, using specific practices and promoting a continuous transition to sustainable agriculture (FAO, 2019). Thus, it focuses on working in synergy with nature to preserve the Earths resources' while being capable of sustaining populations (Ajates Gonzalez et al., 2018; Bellon & Ollivier, 2018; Wezel et al., 2020). It also aims to reconnect agricultural practices with biodiversity to contribute to ecosystems restoration and has also been mentioned as being an alternative paradigm for food systems (Ajates Gonzalez et al., 2018). Agroecology embodies community sharing, including knowledge, skills, and seeds, crucial for future production models merging science, practice, and social movements (Bellon & Ollivier, 2018). It's pivotal for social movements advocating for smaller farms and community-focused agriculture, challenging the dominance of agribusiness (Ajates Gonzalez et al., 2018; Giraldo & Rosset, 2018; Lampkin et al., 2020). Finally, agroecology aims to provide farmers with viable economic means of producing food to enable them to live comfortably from their profession (Ajates Gonzalez et al., 2018).

The Figure 2-1 illustrates the essence of agroecological farming, clarifying its implications of practices and vision. It encompasses environmental protection, biodiversity and ecosystems, social context, economic viability, and rural development.

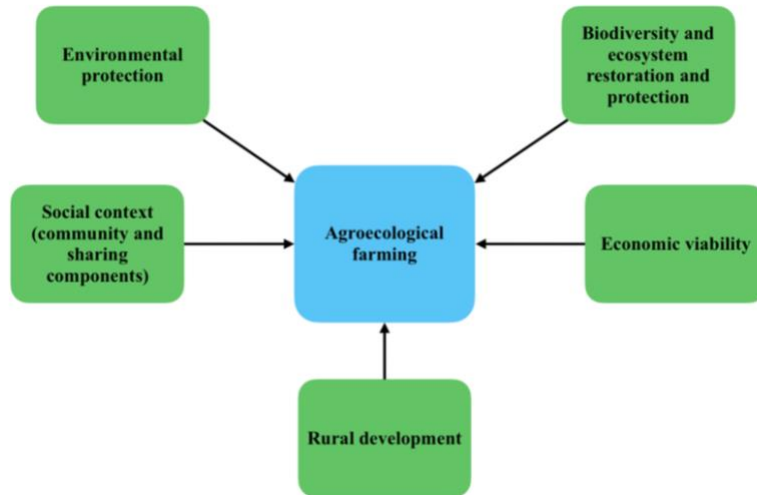


Figure 2-1: Simplified summary of Agroecology

Source: own illustration.

The Figure 2-2 has been designed to illustrate the intricacies of the subject, reporting all the 44 most prevalent terms found on the literature. The size of each of the terms varies depending on the recurrence of the term being used in the literature. The three main components are: social movement, practices, and science. Other important components are “*paradigm shift*”, “*soil health*”, “*input reduction*”, “*organic, transition*”, “*biodiversity*”, and “*innovation*” among others.



Figure 2-2: Word Cloud of agroecology.

Source: own illustration.

### 2.1.3 Expected benefits from Agroecology

Agroecological techniques, rooted in the principles of mimicking natural cycles, offers a potential sustainable pathway for food production by reducing reliance on external inputs and nurturing ecosystems that can regenerate (Ajates Gonzalez et al., 2018; Duru & Le Bras, 2020; Lucas, 2021). Agroecology, aligning with sustainability goals, offers holistic solutions to agricultural challenges by prioritizing biodiversity and soil health (Ajates Gonzalez et al., 2018; Doré & Bellon, 2019). It enhances resilience and productivity through diverse biological resources, promoting sustainable practices like intercropping and reduced tillage (Bellon & Ollivier, 2018; Chatterjee et al., 2021; Lucas, 2021).

The core principles of agroecology, which include increasing organic matter accumulation and promoting soil biological activity, provide a comprehensive framework for designing and managing agricultural systems that are both ecologically sound and resilient (Doré & Bellon, 2019; FAO, 2018b). These principles guide the implementation of sustainable practices at every level of agricultural management. Additionally, by prioritizing diversity in products, sequestering carbon in soils, and integrating animal products with plant diversity and landscape dynamics, agriculture becomes more resilient and sustainable. This approach acknowledges the interconnectedness of various elements within the agricultural system and leverages diversity to enhance overall system health and productivity (Duru & Le Bras, 2020; FAO, 2018b).

Some scholars have proposed further conceptualization, such as Giraldo & Rosset, 2018, arguing that it should be a model in rural communities, territories with diverse landscapes—forests, coastlines, mountains, lakes, rivers. They define this as an opposition to what they define as the “model of death” of the current agribusiness. This model also advocates for an agriculture paradigm that also contests for land and territory, however, this could be considered as an extreme vision of agroecology (Giraldo & Rosset, 2018). By focusing on sustainable approaches, such as diversified cropping systems and reduced input usage, agroecology offers a pathway towards more environmentally friendly and resilient agricultural systems.

Therefore, since agroecology is based on the principles of natural cycles, it offers a sustainable approach to food production. This approach prioritizes biodiversity and soil health, enhances resilience and productivity, and is therefore an environmentally friendly and resilient agricultural system. By promoting practices such as intercropping and reduced tillage, it provides a comprehensive framework for the design of environmentally friendly and resilient agricultural systems.

## 2.2 Background for French agriculture

### 2.2.1 France as a choice: relevance at a global level

The choice of France was deemed appropriate at a more global level as it is the largest agricultural producer in Europe, accounting for over 18% of the continent production, making it the biggest producer of agriculture good in the EU, and over 76 billion € of production value (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2022). Additionally, France is the first European producer of beef and eggs, ranking second for milk, butter and cheese, and third for chicken and pork production, as well as the first European producer of corn and oilseed in general and the fourth largest in vegetable and fruits production (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2022).

Finally, France is the sixth biggest exporting country for farming and agri-food products, and the fourth exporting country for transformed agri-food products, with around €61,6 billion of exported good in 2022 (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2022). Therefore, as France is considered as such an important country for agriculture in Europe, but also globally, the choice of France and its relevance to a more international level makes sense.

*“Agriculture, that occupies roughly two third of the national territory, has a responsibility of natural resources management and of the living heritage that constitute its primary resource.”* (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2016, p. 3)

This quote emphasizes on the importance that agriculture occupies on the French territory and therefore the duty to protect biodiversity and justifies the role of a policy to protect resources and the living.

France has also played a pivotal role in the dissemination of agroecology and the establishment of an international framework (Giraldo & Rosset, 2018; Lampkin et al., 2020). It was one of the primary sponsors of the inaugural Rome Symposium on Agroecology, which served as a catalyst

for the creation of a more international and global framework for agroecology (Giraldo & Rosset, 2018). This symposium allowed the creation of the Tool for Agroecology Performance Evaluation (TAPE), further developed by the FAO (FAO, 2019)

### **2.2.2 Environmental impact of conventional agriculture in France**

However, the significance of agriculture in France is accompanied by a detrimental impact on the environment and climate. In fact, in 2014, agriculture, excluding energy consumption and land use change, represented 18% of France's GHG emissions which is around 90 million tons of carbon equivalent (CO<sub>2</sub>eq) (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014b). That number represents the second most emitting sector in the country after transports (Ministère de la Transition Écologique, 2022).

Furthermore, France is a country where 51% of its land is dedicated to agricultural use, with only 10% of uncultivated lands, which are typically located in areas with limited accessibility (BARBIER et al., 2019). This leaves only a few zones that remain unexploited with respect to biodiversity and natural habitats. It is also noteworthy that the agricultural sector is a significant consumer of water, particularly for irrigation purposes. Indeed, 80% of the water collected for agricultural use is consumed by this sector (Aillery et al., 2018).

Finally, there could be issues linked to concentration in ammonium in the air, and nitrogen and phosphorus in water, especially in zones of intense breeding of animals (Duru & Le Bras, 2020). This causes issues linked to water consumption safety from tap water, as in 2015, more than 950,000 people were consuming a water that had recurring exceedances of quality limits (Aillery et al., 2018).

Therefore, the significance of agriculture and the detrimental effects on the environment and climate in a country like France illustrate the necessity for the implementation of more sustainable practices and policies. It is imperative to safeguard biodiversity, water resources, and natural capital, while concurrently reducing the country's carbon footprint.

### **2.2.3 Organic farming in France and its relation to agroecology**

The historical evolution of organic farming in France, starting in the late 1940s, signifies an opposition to conventional agricultural practices, with initial resistance to mechanization and the establishment of the first organic store (Denhez, 2018). By the 1960s, organic farming gained momentum, challenging established policies like the Common Agricultural Policy (CAP), despite limited support from major agricultural syndicates like the FNSEA. Formal recognition by the EU occurred in 1991, followed by the establishment of the EU Organic Label in 2009 (Denhez, 2018; Radley-Gardner et al., 2016).

Currently, organic farming constitutes 14% of French farms, with over 60,000 farms covering 2.9 million acres by 2022, marking a significant growth trajectory (L'agence Bio, 2023; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2022). This growth reflects a shift towards sustainable agricultural practices driven by both farmer and consumer interest. However, recent data indicates a 5.1% decline in organic consumption by French households in 2022, possibly due to shifting consumer preferences or reduced attention to labels. Despite this, direct sales to consumers increased by 3.9%, suggesting a preference for purchasing directly from producers (L'agence Bio, 2023).

The discussion highlights organic farming's role in sustainability of agriculture in France and its implications and relations to agroecology's institutionalization, emphasizing the importance of ongoing commitment to promoting and communicating sustainable practices for broader adoption and effectiveness.

#### **2.2.4 French farmer's situation today**

Connecting this research paper to recent news, French and European farmers protested environmental regulations in early 2024 due to inadequate financial support, coupled with low product prices (Trompiz et al., 2024). Despite rising consumer demand for sustainable products, low prices persist, reducing willingness to pay more for local and sustainable goods (Trompiz et al., 2024). CAP subsidies remain crucial, constituting 74% of French farmers' income, with only 16% from product sales (Piet et al., 2020). Moreover, administrative complexities and limited time on the farms hinder farmers from accessing additional subsidies. These socio-economic challenges prompt scrutiny of policy effectiveness and farmer perceptions, especially within the APF context (Trompiz et al., 2024).

Consequently, the social and economic circumstances of farmers in France in 2024, in a country with significant agricultural sector at the European level, are not optimal and could be enhanced. This prompts the question of the efficacy of policies designed to enhance their working conditions. It also raises the issue of whether new policies will be accepted by them and how they perceive them. When looking at the APF, this is what this thesis is seeking to understand.

### **3 Literature review**

The subsequent chapter presents a comprehensive look into the current literature and foundational knowledge necessary for addressing the three RQs outlined in Chapter 1.3 and completes the background displayed in Chapter 2. First, it offers a broad overview of the benefits of an institutionalization of agroecology. Then, it explores the enablers and barriers to the implementation of agroecology and its integration into policy and into the agriculture landscape. Thirdly, it dives into the current state of agroecology in France. Finally, the theories and conceptual framework are being outline.

#### **3.1 Expected benefits of the institutionalization of agroecology**

In accordance with the preceding background section about agroecology on Chapter 2, there are agreements over the benefits that agroecology can bring to agriculture, communities and overall sustainable food systems (Ajates Gonzalez et al., 2018; Bellon & Ollivier, 2018; Doré & Bellon, 2019; FAO, 2018b). Therefore, it is necessary for policy-makers to advocate for an 'agroecological transition' to address varied demands, including societal concerns about environmental and health impacts of intensive agriculture, European directives to improve farming practices' environmental effects, and enhancement of economic viability in agricultural activities (Ajates Gonzalez et al., 2018).

Agroecology is recognized for its environmental and economic multi-functionality, which have the potential to enhance both the competitiveness of French agriculture and the autonomy of farms by replacing external inputs with ecosystem services (Arnauld De Sartre et al., 2019). Moreover, agroecological diversification is emphasized for its role in strengthening ecological and socio-economic resilience, by creating new market opportunities (FAO, 2018b).

As agroecology becomes incorporated in institutional and legislative frameworks, such as policy or labeling schemes, it can gain official recognition and support, but this process also entails a shift or change in the meaning of agroecology itself. Through institutionalization, agroecology moves from being primarily a grassroots movement to becoming part of established agricultural policies and practices. This shift often includes formalization of principles and practices, development of educational and training programs, and integration into policy frameworks (Bellon & Ollivier, 2018; HLPE, 2019). However, Bellon & Ollivier (2018) note that institutionalization process can dilute some of the original principles of agroecology, such as sustainability and social equity, depending on how institutions choose to define and implement it. Thus, the institutionalization of agroecology is a double-edged sword that can both support and potentially compromise its foundational goals, this will be discussed further in the literature review and the result chapter.

When examining example of countries that have institutionalized agroecology, Latin American countries represents a particularly notable example (Giraldo & Rosset, 2018; Le Coq et al., 2020). This process began with a smaller movement to become part of the institutionalization process. One example is Brazil, where agroecology's institutionalization stemmed from social movements advocating for small producers' inclusion (Le Coq et al., 2020). Despite initial success, setbacks occurred post-2010, with criticisms regarding scientific rigor and reliance on private research (Ollivier et al., 2019). Meanwhile, organic agriculture institutionalization began in the 1980s, later becoming part of regulatory frameworks in various countries (Le Coq et al., 2020). Agroecology in Cuba evolved from crisis response to a proactive system, while other countries like Mexico, Argentina, Chile, and Costa Rica prioritize revitalizing smallholder agriculture without specific policies (Le Coq et al., 2020). These narratives highlight the intricate interplay of social movements, political contexts, and scientific debates, serving as a comparative lens for examining the APF's trajectory.

## 3.2 Enablers to implementation of agroecology

In the context of agroecological transition, a driver is being defined by the researcher, as any entity that facilitates the transition and encourages the adoption of agroecology into a more widespread agricultural system. In this section, the identified enablers are institutionalization and collaboration, advocacy of social movement, policy tools and economic instruments, and research and education.

### 3.2.1 Institutionalization and Collaboration

The implementation of agroecological practices should be built upon a strong network of collaboration across various sectors. This involves an inclusive dialogue among researchers, non-governmental organizations (NGOs), government entities at both local and national levels, and the farmers themselves (Bellon & Ollivier, 2018; Chatterjee et al., 2021; Lucas, 2021; Wezel & David, 2020).

Such collaborative efforts are pivotal for the institutionalization of agroecology, as highlighted by Bellon & Ollivier, 2018, resulting from three main enablers: (1) Paths of individuals, including actors from the Global South; (2) Storytelling that supports strategic discourse and audience engagement in agroecology; (3) Compromises among actors and interpretations in social contexts where agroecology is discussed. Additionally, shared groups that pool practices and resources are also significant, as they provide a platform for farmers to learn from each other and collectively enhance their agroecological implementations (Bjørnåvold et al., 2022; Lucas, 2021). Finally, it has been demonstrated that farms should be included in a dual space to succeed in their agroecological system, the first one being an ecological space, to include the transformations of farming, and the second one being a relational space that creates a sociotechnical system to allow exchanges (Doré & Bellon, 2019).

A review of existing case studies reveals that agroecological initiatives have frequently been shaped by the influence of broad networks of pro-agroecology advocacy groups, suggesting the power of coordinated social movements (Lampkin et al., 2020; Le Coq et al., 2020; Ollivier et al., 2019). These movements have successfully influenced governmental agendas and have led to the establishment of supportive policies that facilitate the adoption of agroecological practices. Such developments underscore the importance of resilient social structures and governmental responsiveness in nurturing sustainable agricultural methodologies (Le Coq et al., 2020). Giraldo & Rosset, 2018 also proposed that agroecology should be able to construct an intentional process of organization to scale agroecology at territorial level.

The wider adoption and institutionalization of agroecological practices could also be facilitated by their integration into existing agricultural legislative frameworks. It was cited by Lampkin et al., 2020 that agroecology could be enhanced by organic farming:

*“There is an argument that organic farming is a transitional stage en route to an agroecological future, or at least somehow less impactful and more constrained by certification and markets” (Lampkin et al., 2020, p. 107)*

Since the 1980s, both the French government and the European Union have played instrumental roles in fostering the growth of organic farming (L'agence Bio, 2023; Lampkin et al., 2020; Lucas, 2021). Organic farmland in France expanded significantly from 3.8% in 2012 to 10% in 2017, and projections suggest it will reach 17% by 2027 (L'agence Bio, 2023; Lampkin et al., 2020, p. 107; Lucas, 2021). The number of organic farms has similarly increased, reaching 60,483 in 2018, which represents 14% of the total number of farms in France (L'agence Bio, 2023). This growth, from a modest percentage to a substantial part of the agricultural landscape, underscores the potential for agroecology to follow a similar trajectory, benefiting from structured support and gradual integration into national agricultural policies (L'agence Bio, 2023; Lampkin et al., 2020, p. 107; Lucas, 2021).

### **3.2.2 Advocacy by social movement: Resistance, Gender Equality and Social Justice**

Promoting agroecology also involves resistance against industrialized conventional agricultural models, with grassroots organizations organizing at the territorial level to advocate for agroecology as a transformative social movement (Giraldo & Rosset, 2018; HLPE, 2019; Le Coq et al., 2020). The literature emphasizes agroecology's defense against global capitalist models, promotion of commons, rejection of large-scale agribusiness, and advocacy for control over production, distribution, and consumption to safeguard territories (Giraldo & Rosset, 2018). It advocates for systemic, transdisciplinary shifts in agricultural paradigms (Anderson & Maughan, 2021a; Van Der Ploeg, 2021). Grassroots organizations mobilize at the local level, challenging power structures and advocating for agroecology as not only a set of practice, but a comprehensive shift in production model and a transformative social movement (Giraldo & Rosset, 2018; HLPE, 2019; Le Coq et al., 2020). International events like the Rome Symposium and the Nyéléni forum also underscore the collaboration between social movements and civil society in defending agroecology against mainstream trends (Ajates Gonzalez et al., 2018; Giraldo & Rosset, 2018).

Furthermore, an essential component found in the literature is the need to recognize the pivotal role of women in the context of social justice in agroecology. Worldwide, women play important roles in farm level, representing almost half of the agricultural workforce (FAO, 2018b; IPCC, 2022). However, the work carried out by women is often marginalized, vulnerable and their contribution is often not recognized, implying a lack of economic autonomy (FAO, 2018b). Supporting women's formal rights to land access is vital for advancing agroecology (FAO, 2018b; HLPE, 2019; Le Coq et al., 2020). Initiatives focused on enhancing gender equality ensure that agroecological practices benefit all members of the community, contributing to fairer family dynamics, a just land access and resilient community structures. By reorienting institutions to explicitly address these inequalities, agroecology becomes a tool for broader social transformation, which is essential for its long-term success and sustainability (HLPE, 2019).

Other changes encompass prioritizing health and nutritional benefits, implementing true cost accounting, and addressing key areas like education, employment for marginalized groups, and all aspects of the food system from processing to consumption, fostering robust socio-economic connections between producers and consumers (HLPE, 2019).

### **3.2.3 Policy Tools and Economic Incentives**

For agroecology to transition successfully, targeted policy tools and economic incentives are crucial. The High Level Panel of Experts (HLPE) report on Food Security and Nutrition on agroecology pointed out an inertia around agroecology and its implementation, highlighting that to overcome it, it is imperative to create a level playing ground where approaches can be compared equally. This means a redirection of investments and efforts to create and put in place innovative initiatives such as agroecology, for any producers regardless of the scale of their operation, and to provide alternatives to an industrial dominant model (HLPE, 2019). Additionally, this reports highlights that a potential solutions could be the removal of subsidies from synthetic inputs and reward for sustainable food production methods (HLPE, 2019).

Moreover, the Cour des Comptes, French instance for public finances, has outlined various measures that aim to facilitate this transition, emphasizing the need for policies that provide fair financial returns to farmers and promote local, short supply chains (Cour des Comptes, 2021). These policy instruments are designed to create an enabling environment where agroecological practices can thrive, supported by both the public sector and consumers. Moreover, setting clear objectives and providing specific agroecological guidelines help in steering the agricultural sector towards sustainable practices that are economically viable and environmentally sound (Cour des Comptes, 2021; Lampkin et al., 2020).



### **3.2.4 Technological, research support and education**

There is a recognized need for increased investment in education, research and technological support to promote agroecological transition as an innovative system (HLPE, 2019). The HLPE highlights two main themes: sustainable production systems, such as climate-smart agriculture and sustainable food value chains, and transformative agroecological approaches, such as organic farming and agroforestry. It also points to the need for further research investment with a stronger focus on agroecological approaches to reduce the knowledge gap on the linkages of agroecology to policy, economic and social impacts, climate resilience and transition support (HLPE, 2019)

Furthermore, investment in both private and public research at national and international levels is essential, as highlighted by the HLPE. Promoting agriculture through public education and awareness, as suggested by Ajates Gonzalez et al. (2018) and FAO (2018b), could validate agroecology at a broader level and enhance consumer awareness of food production, distribution, and sales (HLPE, 2019). Transdisciplinary research approaches should be promoted to foster collaboration across various disciplines. Additionally, educational institutions should integrate “transition to Sustainable Food Systems (SFS)” into curricula through experiential learning (HLPE, 2019). Technology transfer mechanisms are needed to aid adoption of innovative approaches by farmers (HLPE, 2019; IPCC, 2022). Finally, addressing power imbalances in knowledge generation is vital, requiring recognition of diverse sources of knowledge (Le Coq et al., 2020) and bridging gaps between social movements and the scientific sector (HLPE, 2019).

Additionally, Le Coq et al. (2020) underscore the necessity for a paradigm shift and the training of all agriculture stakeholders, including technicians and administrative officials, to remove barriers and facilitate agroecological development.

## **3.3 Barriers to implementation**

In the context of this research, a barrier is defined as any factor or condition that impedes or obstructs the successful implementation and adoption of agroecological policies or transformative solutions within the agricultural sector. The main identified barriers are the definitional inconsistencies, political and financial instability, and conflicting views on agroecology role.

### **3.3.1 Definitional Inconsistencies**

One major barrier to the widespread adoption and institutionalization of agroecology is the lack of a consistent definition and alignment among different stakeholders. This lack of clarity makes it challenging to understand and institutionalize agroecology.

In fact, using the example of the French context, decision makers see agroecology as a demanding innovative and technology-oriented solution, emphasizing scientific protocols as a superior approach, using evidences, science and innovation as a sole solution for agri-food transition (Ajates Gonzalez et al., 2018; de Molina, 2012). While policy-makers prioritize scientific validation and innovation (Doré & Bellon, 2019; Lampkin et al., 2020), agronomists view agroecology as a social movement integrating ecological principles into farming practices (Ajates Gonzalez et al., 2018; Arnauld De Sartre et al., 2019; Bellon & Ollivier, 2018). This perspective emphasizes the integration of ecological principles into agronomy to challenge and transform conventional agricultural practices (Doré & Bellon, 2019; Giraldo & Rosset, 2018).

The view of agroecology before its institutionalization was therefore quite polarized, which even today, after the implementation of the policy and a common definition in the rural and fishing code, part of French legislation, remains a challenge (Ajates Gonzalez et al., 2018; Bellon &

Ollivier, 2018). The discrepancy in definitions can impede the formulation and implementation of policies, as stakeholders may diverge in their fundamental principles and objectives.

### **3.3.2 Conflicting Views on Agroecology's Role**

The debate over agroecology's role within the broader agricultural and food systems presents another layer of complexity. Some advocates argue that agroecology should be an integral and transformative approach that should encompass social and political dimensions, opposing more production-oriented models like climate-smart agriculture or sustainable intensification (Anderson & Maughan, 2021a; Giraldo & Rosset, 2018; HLPE, 2019; Le Coq et al., 2020). This viewpoint stresses that agroecology should not only change how food is grown but also fundamentally transform the socio-economic and environmental contexts in which agriculture operates. Additionally, some researchers like Ajates Gonzalez et al. (2018) and Giraldo & Rosset, (2018), fear that the co-optation of agroecology by corporations, experts and public authorities might have detrimental impact on the social movement of agroecology. Co-optation of agroecology dilutes its transformative potential by appropriating its principles for profit or control rather than for genuine sustainable change (Anderson & Maughan, 2021a; Giraldo & Rosset, 2018). This distraction has also been used by detractors of agroecology to hinder efforts that promote environmental sustainability, social justice, and food sovereignty (Anderson & Maughan, 2021a).

The objective of transforming the current industrial food system into a less unsustainable system may result in the dilution of agroecology's political content and the removal of its small farm scale approach. Moreover, criticism has been levied at the policy's opportunistic nature, since the Minister's adoption of "agroecology" was influenced by two agricultural groups—one promoting ecologically intensive agriculture and another advocating for conservation agriculture (Denhez, 2018; Lampkin et al., 2020).

However, global consensus on which innovative approaches should be prioritized remains elusive, and investment in agroecological research lags other approaches, resulting in knowledge gaps and slow progress (Anderson & Maughan, 2021a; HLPE, 2019). Furthermore, the current investment in agroecological research is considerably lower compared to other approaches, which exacerbates the knowledge gaps regarding its relative yields, performance, and overall impact on sustainability (Anderson & Maughan, 2021a; HLPE, 2019).

### **3.3.3 Political and Financial Instability**

Political instability and financial constraints can significantly impact the continuity and effectiveness of agroecological policies. Changes in government can lead to shifts in political support for agroecological policies, potentially resulting in reduced support or abrupt changes in strategies previously set to promote agroecology (Bellon & Ollivier, 2018). Moreover, Le Coq et al., (2020) have demonstrated that despite the emergence of policies and instruments in the past decade to enhance agroecology, these tools remain limited in number and not considered strong enough for a further transition.

Furthermore, financial constraints serve to further complicate the implementation of agroecological practices. For example, the French Ministry of Agriculture has not earmarked specific funding for the APF, instead reorganizing existing budgets, which has been deemed insufficient by various stakeholders (Ajates Gonzalez et al., 2018). As a matter of fact, the APF was considered by the agroecological NGOs to be falling behind the expected policies for agroecology and represented an imposed adaptation of agroecology to fit into existing policies (Ajates Gonzalez et al., 2018; Lampkin et al., 2020).

This lack of dedicated resources hinders the ability to implement comprehensive and effective agroecological practices across the country (Ajates Gonzalez et al., 2018; Bellon & Ollivier, 2018). Moreover, these challenges contribute to the inefficiency and instability of agroecological

initiatives, which struggle to scale up to the required size and expanse of land. Consequently, there is a prevalent misconception that technological innovation alone, without significant social and economic reforms, can lead to more sustainable agricultural practices, undermining the holistic nature of agroecology (de Molina, 2012).

These challenges highlight the need for a unified approach that embraces the multifaceted nature of agroecology, ensuring that it is supported both politically and financially while aligning stakeholder views towards a common goal (Giraldo & Rosset, 2018; Le Coq et al., 2020).

### **3.4 The state of agroecology in France today**

In recent years, France has witnessed significant progress in the adoption of agroecological practices, as evidenced by surveys conducted among farmers. A study conducted in 2015 by the French Ministry of Agriculture revealed that 93% of farmers reported engaging in at least six agroecological approaches, with a focus on limiting inputs and improving soil quality (Gramond, 2015). Later research conducted in 2022 by BASF and the BVA Institute indicated a slightly lower engagement rate of 75% among farmers (BASF, 2022). These findings serve to illustrate the prevalence of agroecological practices within French agricultural methods.

Additionally, it was shown that the promotion of agroecological initiatives in France is further facilitated by the formation of farmer groups, encompassing approximately 8,000 farms and 9,500 individual farmers (Wezel & David, 2020). These groups serve as crucial platforms for knowledge exchange, resource sharing, and collective advocacy for policies favoring sustainable agriculture.

Moreover, government initiatives, such as the Economic and Environmental Interest Groups (EEIG), highlight France's commitment to advancing agroecology. By January 2014, 103 projects were selected to receive funding under EEIG, covering diverse themes such as feed self-sufficiency, water quality, organic farming, and agroforestry (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014a).

France's leadership in agroecology extends to research and policy domains, with institutions such as the National Research Institute for Agriculture, Food and the Environment (INRAE) and Agricultural Research Centre for International Development (CIRAD) spearheading efforts in this field (Lampkin et al., 2020). Moreover, government policies, including subsidies for organic farming and agro-environmental measures (MAEC), demonstrate a concerted effort to integrate agroecological principles into existing frameworks (Ajates Gonzalez et al., 2018)

Despite these advancements, challenges persist, with discrepancies observed between policy intentions and on-the-ground outcomes (Bjørnåvold et al., 2022; Lucas, 2021). Addressing these challenges necessitates strategic actions targeting the agri-food sector and broader stakeholder participation. A comprehensive approach, integrating environmental, economic, and social dimensions of sustainability, alongside robust monitoring, and evaluation mechanisms, is essential to track progress and drive continuous improvement.

While France's agroecological policies have fostered dialogue and garnered international attention, evaluating their effectiveness remains challenging (Lampkin et al., 2020). Nevertheless, these policies have played a crucial role in legitimizing agroecology in France and fostering global discourse on sustainable agriculture. By confronting existing challenges and embracing a holistic approach, France can further solidify its position as a global leader in agroecology and contribute to building a more sustainable agricultural future.

## 3.5 Theories, tentative explanation, and conceptual framework in relevance to agroecology

### 3.5.1 Institutionalization theory and agroecological transition theory

This thesis is based on two theories, the first one is the institutionalization theory as defined by Bellon & Ollivier, 2018, and the second one is the agroecological transition theory as defined by Ong & Liao, 2020.

The first theory, institutionalization is defined as a “*gradual process of creating and stabilizing relationships between actors, as well as sharing common ideas and norms that make collective action possible*” (Bellon & Ollivier, 2018). As agroecology becomes part of the institutional framework, it gains official recognition and support, but this process also involves a shift or change in the meaning of agroecology itself. In their research, Bellon & Ollivier (2018) sought to demonstrate how a policy can facilitate the ecological modernization of agriculture, highlighting the circulation of agroecology among different social groups and variations in how agroecology is understood and practiced as a result of social circulation. This shift encompasses the formalization of principles and practices, the development of educational and training programs, and the integration into policy frameworks (Bellon & Ollivier, 2018). This theory is pertinent to the research aim which is to examine the APF, addressing the transition to agroecological practices and seeks to make them more widespread, as well as to consider the potential for institutionalizing agroecology.

Assuming that this theory provides a comprehensive lens for understanding the institutionalization of agroecology, its transferability to specific case studies is considered. It has policy implications and lends itself to stakeholder perspectives (Bellon & Ollivier, 2018). However, methodological constraints such as data collection and bias pose limitations. Given the dynamic nature of institutionalization, longitudinal studies are crucial for periodic reassessment.

The second theory, which is the one of agroecological transition by (Ong & Liao, 2020) aims to describe agroecology as a socio-ecological transition. This transition is derived from complex systems and critical transition theory. This theory aims to understand relevant perspectives and concepts to guide the investigation of social drawbacks. This theory states that for effective agroecological transitions, there is a need to understand ecological and socio-political constraints to change (Ong & Liao, 2020). It builds upon three other frameworks: the socio-ecological, the socio-technical and the norms and networks. The socio-ecological framework primary concerns interactions between the farmers, the farms, natural resources, and environmental conditions. The socio-technical is more focused on technology and institutions and their implications to consumers. The norms and networks emphasize on social norms network structures that either monocentric or polycentric markets (Ong & Liao, 2020).

According to Ong and Liao, agroecology theory emphasizes a holistic view that integrates ecological, social, cultural, and economic aspects. It assumes that agroecological systems are diverse and complex, promoting resilience and sustainability through synergistic relationships. However, acknowledging potential conceptual ambiguities can hinder operationalization. Trade-offs and conflicts, such as balancing biodiversity and productivity, pose challenges. In addition, knowledge gaps exist regarding scalability and long-term impacts, especially in diverse agro-climatic contexts.

### 3.5.2 DPSIR conceptual framework

The conceptual framework has been developed (*in*

*Figure 3-1*) to illustrate the aim of this thesis as well as the theories. This framework is a modified and adapted version of the Driver-Pressure-State-Impacts-Response (DPSIR) framework created by the European Environmental Agency (1999) (Kristensen, 2004). The DPSIR

framework illustrates the connections and causal relationships starting from driving forces, extending through pressures, to the conditions and effects on ecosystems, human health, and functions. To address these issues, responses are formulated and implemented (Kristensen, 2004). Therefore, it allows a systematic view of the links between environmental and human systems.

The DPSIR framework was selected as it aligns well with the objectives of this research. This framework has for instance been used to analyze the case of maintenance of water quality for human health and ecosystem (Kristensen, 2004). In this context, the primary driver is identified as agriculture. The pressures are resource utilization and intensive farming methods. The state refers to conditions such as soil health, water quality, and biodiversity. The impact includes diminished ecosystem resilience, health complications, and reduced agricultural yields. The responses to the aforementioned issues involve a number of different initiatives, including policy changes, advancements in research and innovation, educational efforts, and community involvement (Kristensen, 2004).

This study particularly concentrates on the Response aspect, specifically analyzing the scientific feedback on agroecology, the APF, farmers' perceptions, and the practical application of the APF. The adoption of this framework is due to its relevance and effectiveness in addressing the research goals.

As defined by Mickwitz (2003), environmental policies and problems need the contribution of scientific knowledge and discourse, since it allows to bring factual data on the development of a policy. Therefore, the utilization of the DPSIR framework is pertinent, as it underscores the pivotal role of scientific response in prompting policy response.

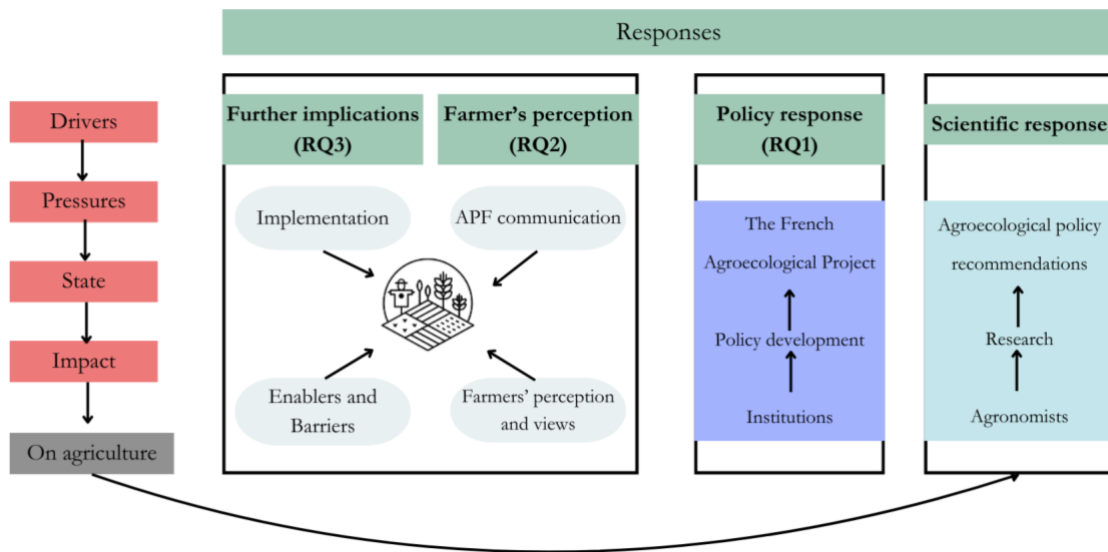


Figure 3-1: DPSIR Conceptual framework

Source: own illustration, inspired by (Nyarai, 2021; Ong & Liao, 2020).

## **4 Research design, material, and methodology**

This section outlines the methods used to answer the RQs and achieve the aims of the study. It details the data collection and analysis techniques applied to each RQs and describes their role within the broader research design. Additionally, this chapter clarifies the types of data gathered and how they were used to generate insights.

### **4.1 Research design**

Given the scope, objectives of this study and the centrality of stakeholder's views and perspectives, qualitative research methods and data collection have been employed. Qualitative research was considered an appropriate methodology since this research aims at gaining an in-depth understanding of a topic and to explore new and unknown areas (Creswell & Creswell, 2018). The research design comprises two primary components: an exhaustive literature review pertaining to the APF to answer RQ1, followed by interviews with farmers related to RQ2 & RQ3, as shown in Table 4-1.

The methodology employed to address the RQs was case study based. This entailed an in-depth examination of a single unit or sample of a class, with a focus on identifying the factors that have influenced its development in relation to the surrounding environment (Flyvbjerg, 2011). While a case study is not a reliable method for providing information about the entire group, in this case, French farmers in general, it remains useful as a preliminary research method for developing hypotheses (Flyvbjerg, 2011). The primary data source consisted of semi-structured interviews conducted with organic-certified farmers in the Normandy region of France.

This research was underpinned by an interpretivism worldview combined with a constructivist one. The interpretivism worldview emphasizes the experiences and perceptions of the interviewees based on their unique circumstances, as well as an understanding of the context in which the farmers operate (Sovacool et al., 2018). Constructivism typically relies on qualitative methods such as interviews and emphasize the co-construction of meaning, that is, how participants interpret their world and the factors that influence these interpretations (Creswell & Creswell, 2018).

It is crucial to acknowledge and critically examine the researcher's normative background, set of values and worldview influencing this study (Creswell & Creswell, 2018). While the researcher is not an agroecology activist, their favorable view towards is clear and their professional and academic experiences as a researcher have molded their advocacy for systemic socio-ecological change. The transformative worldview described by Creswell and Creswell (2018) most closely aligns with the researcher's perspective in this research.

This research adheres to the fundamental principles of qualitative methodology, as outlined by Creswell & Creswell, (2018). The research was conducted through an extensive literature review on agroecology, its institutionalization, and the APF, as detailed in Chapter 3. In terms of qualitative research, it is conducted within natural settings, namely the daily work environments of farmers. Moreover, the methodology encompasses a diverse array of data sources, primarily in the form of interviews and direct observations on farms. These data sources were employed to obtain insights into both general farming practices and those related to agroecology.

Moreover, this research employs an inductive approach to data analysis (Creswell & Creswell, 2018). The objective of the interviews is to ascertain the farmers' perspectives on agroecology and the APF, as well as the challenges and obstacles to the advancement of agroecology. Given the pivotal role of farmers as stakeholders who determine the adoption of agroecological practices on their farms, the interview segment is centered on farmers. Moreover, farmers serve as key observers of the direct impacts resulting from changes in agricultural practices.

The participants meaning was obviously at the heart of the research, as they are bringing the most crucial insights for this research, that is the adoption and the views on agroecology and on the APF, as well as the identified enablers and barriers for implementation. The design of this study was mainly emergent, meaning that it was based on exploratory structure that was adjusted throughout the study (Creswell & Creswell, 2018).

Table 4-1: Research questions, associated methods, and purpose.

RQs		Method	Purpose
1	How did the APF intended to advance agroecology in France?	Literature review and analysis of the APF.	Gain understanding of the APF and its intentions.
2	How is the APF communication perceived, understood, and implemented by organic farmers in Normandy?	Interviews and observations on the APF with organic farmers in Normandy.	Identify potential gaps between the intentions of the APF and the actual perception and implementation among organic farmers.
3	What are the barriers and enablers for farmers to implement agroecology and for the success of the APF guidelines?	Interviews and observations on the APF with organic farmers in Normandy.	Understand if the APF enabled some changes in the French agriculture and if farmers identify opportunities or barriers to implement agroecology practices.
Aim: understand the intentions behind the APF and how it has been perceived by organic farmers since its implementation.			

Source: own illustration.

## 4.2 Methods used to collect data

### 4.2.1 Method used for literature review

The methodology employed for the literature review involved the initial identification of relevant documentation pertaining to the topic of agroecology and its institutionalization. This was accomplished through the identification of a diverse array of literature on the subject, with a specific emphasis on the potential benefits of institutionalizing agroecology and an examination of existing policies pertaining to agroecology. The literature thus identified allowed for the framing of the problem, thereby providing an overview of the existing research on the integration of agroecology into legislative frameworks. (Creswell & Creswell, 2018).

The literature was identified through the Scopus and EBSCO databases, which were used to locate peer-reviewed literature on the subject of agroecology. Later, further sources were identified through the bibliography of reviewed documents. Further research led to find information about the APF, which enabled to narrow down the research to the French context and related research and papers, using keywords research methodology (Creswell & Creswell, 2018). A total of twenty-nine papers were used for the literature review, out of which twenty-three were peer reviewed academic papers, and six were from sources—consulting reports, studies, or position papers—were collected.

Finally, a set of codes was established to identify the key points and search terms for each paper. The twenty-nine selected papers were then subjected to analysis on a literature matrix, which was divided into seven different codes and information categories. These categories were chosen based on the relevance of the identified information. The themes identified are as follows: (1) Challenges that Agroecology aims to solve; (2) Definition of Agroecology; (3) Policy cases; (4) Expected benefits of agroecology and its institutionalization; (5) Challenges to implementation and limitations ; (6) Facilitation of Implementation (7) The current state of agroecology in France.

These codes allowed to organize the ideas around the literature reviewed, which further helped to identify key elements to be analyzed. Then, to analyze the documentation found, each code related information was collected into a literature matrix, on an Excel file. That document allowed a better visualization of the relevant information collected with the literature review, as well as getting the sources of each of the information.

#### **4.2.2 Methods for analysis of the APF**

To address RQ1 effectively, it was imperative to develop a nuanced understanding of APF, which necessitated going beyond a mere review of the existing literature. An in-depth analysis of the APF was conducted by examining the changes from both 2012 and 2014. Each element of the policy was dissected to ascertain its underlying principles and objectives. Further, these elements were categorized into core components most pertinent to agroecological discourse: the social movements, practices, and scientific underpinnings that define agroecology.

To facilitate this analysis, documentation from the French Ministry of Agriculture regarding the APF was compared with the previously analyzed literature on agroecology, mostly due to the lack of academic literature on this specific topic. This comparative approach was employed to elucidate and emphasize the congruences and divergences between the policy's provisions and the theoretical and practical aspects of agroecology as discussed in academic circles. This methodological strategy not only enriched the comprehension of the APF but also positioned it within the broader scholarly discourse on sustainable agricultural practices.

While this study aims at analyzing the APF, its component as well as the perception of farmers and further implication related to this policy, and has a part about a few results after the implementation, this is not a policy evaluation as defined by Mickwitz, 2003 and Vedung & C.J. Van Der Doelen, 2017. Additionally, this study will not reflect on the quantitative data related to the APF.

#### **4.2.3 Methods for interviews and observation**

In addition to the literature review, the data collection method employed was through interviews. A total of eight interviews were conducted, in conjunction with observations. This number was sufficient to achieve data saturation, indicating that further interviews would not have yielded any additional insights (Creswell & Creswell, 2018).

Seven of the interviews were conducted in person, while one was conducted by telephone. The semi-structured interviews permit the direct collection of insights from farmers, thereby facilitating the acquisition of the requisite information. Another data collection method employed was the observation method, whereby the researcher visited farmers in their natural environments. This methodology also permitted farmers to picture their daily activities and practices, as well as more practical data on the fields.

The interviewees were purposefully chosen based on their main activity, organic farming under the EU organic label guidelines, and on their geographical area, Normandy, in the Perche Regional Park (PRP). The farmers interviewed are producing apple juice and cider, vegetables, fruits, cereals (wheat, spelt, buckwheat), oilseed, breeding animals and milk. The sampling methodology employed allows for the generation of a representative sample of different agricultural production. The primary method of establishing contact with the farmers was through personal networks, with the assistance of individuals encountered during the visit to Normandy. Moreover, the strategy to contact some of the farmers is through some cooperation groups and GIEE, which can be found on the government website.

#### **4.2.4 Choices of organic farmers**

The study focuses on exploring the perceptions, enablers, and barriers of agroecological transitions in France, particularly within the Normandy region. This has been done through the



lens of organic farmers certified by the EU organic label (Regulation (EU) 2018/848, Radley-Gardner et al., 2016). This choice is motivated by the assumption that organic farmers are predisposed to agroecological concepts and practices. Additionally, their accessibility compared to conventional farmers facilitates data collection. Moreover, organic farming aligns with the criteria of the APF, emphasizing its relevance. Literature suggests that organic farming and agroecology share significant similarities (Lampkin et al., 2020), enhancing the pertinence of studying organic farmers. Interviews with organic farmers aim to elucidate existing sustainable agriculture practices, government support for agroecological implementation, and farmers' perceptions of agroecology's benefits and challenges. By prioritizing farmers' firsthand experiences and insights, the study aims to contribute to informed policymaking and agricultural sustainability efforts in France.

### **4.3 Material collected**

With regards to the methodology employed for data collection, qualitative interviews constituted the principal approach of the collected material. These interviews have been conducted via telephone or directly on the field, featuring open-ended questions aimed at eliciting comprehensive insights from the farmers. Furthermore, observational methods have been employed directly at the farms when possible, employing an unstructured format, giving farmers the freedom to share their practices and experiences openly, as they go about their daily routines.

The interview guide for farmers (Appendix 2) has served as a base for the question and was designed in a way that allows to cover the research questions and allows to get an overview of the farmer's activity. There are in total 21 questions divided in four main parts: (1) Context of the farm (mainly for observation); (2) Organic farming, (3) Agroecology, (4) The APF. The interviewees had different types of production, from polyculture farms, to arborists, cereal, and bread producer as well a one beekeeper. Each of the interviews lasted around sixty to ninety minutes, giving the opportunity to farmers to have sufficient time to share insights.

One of the advantages of conducting interview is that it allows the researcher to gain a deeper understanding of the farmers' perceptions, as well as a contextual understanding of the situation. Furthermore, it allows the participants to share their stories and perspectives. (Creswell & Creswell, 2018).

Another type of interview was the one with the minister who designed the APF. This is considered a different type of interview because the questions were quite different from those asked of the farmers. This interview permitted an even better comprehension of the APF from its designer, as well as some insights about the implementation of it.

### **4.4 Methods used to process information**

To ensure comparability of the data collected, the data have been analyzed through manual coding on an Excel file, allowing a thorough analysis of the data indifferently of the answers. The data has been processed following the five steps defined by Creswell & Creswell to analyze qualitative data. The first step will therefore organize and prepare the data, that is transcribing the interviews and observations, fields note, and sorting and arranging the data depending on the source of the information. Then, the second step is to look at the data to understand deeper what was said by the participants, what kind of idea did they share, or how valuable can some data to contribute to research. The third step is to start coding the collected data inductively, which means taking parts of the collected data and label it with predefined codes. The fourth step consist of generating description and themes about the participants, places or even when conducting the interview or the observation. Finally, the last step involves the representation of the description and themes, that means to use a narrative passage to relate the findings of the analysis.

## 5 Findings and analysis

This section contributes to addressing the three RQs outlined earlier in the thesis. To tackle RQ1, it is essential to define the components of the APF. In this regard, Section 5.1 is dedicated to an in-depth examination of the composition of the APF and an analysis of the intended transformative impact of this policy on the French agricultural sector. To respond to RQ2 and RQ3, interviews were conducted in accordance with the methodology outlined in Section 4.2.2. The results of the interviews will be presented in Section 5.2.

### 5.1 Current knowledge related to the APF

#### 5.1.1 The design of the APF

In the analysis presented in Chapter 5.1, the examination of the APF is framed using the DPSIR conceptual framework, detailed in Chapter 3.6. This framework facilitates the contextualization of policy responses within the APF.

An interview was conducted with Stéphane Le Foll, the former Minister of Agriculture, to gain insight into the rationale behind the creation of this policy, as well as its design and its outcomes, as reported by the Minister (*Appendix 3*). In response to current agricultural issues in France, Stéphane Le Foll, former French Minister of Agriculture under François Hollande's presidency from 2012 to 2017, played a pivotal role in guiding French agricultural policy towards sustainable practices. Before his ministerial role, Le Foll was deeply involved in agricultural issues at the European Parliament and was a key proponent of sustainable farming. He founded the Saint Germain group, dedicated to promoting sustainable and fair agriculture and exploring agroecology, a well-established practice since the 1920s (S. Le Foll, Personal communication, April 15, 2024).

During his tenure, Le Foll recognized challenges in traditional agricultural practices and inertia in public policies. Inspired by international research and ideas, he played a key role in negotiating the new CAP plan. He also spearheaded the integration of agroecology into the Law for the Future of Agriculture of 2014, marking a significant shift towards the Produce Differently plan, known as the APF, aimed at redefining farming techniques and incorporating agroecological principles into agricultural education. (S. Le Foll, Personal communication, April 15, 2024).

When creating the APF, the French Minister of Agriculture at the time, Stéphane le Foll, stated:

*“I want our agriculture to go down the road of high performance in terms of both economics and ecology, making the environment a key factor in our competitiveness. This is a dynamic founded on the strength of collective effort and the rich diversity of our regions, on innovation and on the spread of new know-how. We shall make France a leader in agroecology.” (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2014a, p. 2)*

The project aimed to achieve high economic and ecological performance, enhancing the resilience of French agriculture. The twelve components of the APF, that will be detailed further in part 3.2.1—arranged based on movement, practices and science—are the following : (1) Economic and Environmental Interest Groups (EEIG), (2) agricultural development, (3) financial support, (4) local stakeholders, (5) pesticides reduction and biocontrol, (6) organic farming, (7) Ecoantibio, (8) soil (4 per 1000), (9) beekeeping, (10) agroforestry (11) Education, (12) choice of seeds.

Therefore, under Le Foll's leadership, the APF aims to integrate agroecology into policy, fostering innovation for sustainable agriculture. This proactive approach not only showcases France's dedication to agroecology but also emphasizes its potential to shape global agricultural policy.

### 5.1.2 The twelve components of the APF

This section is intended to provide further clarification regarding the APF and the specific elements comprising each component of this policy. Table 3-1 provides a summary of the components, including the main goals and tools associated with each.

Table 5-1: Summary of the APF

Components	Goals	Tools
<b>Social components</b>		
1. EEIG (Economic and Environmental Interest Grouping)	Encourage emergence of collective dynamics.	Creation of groups of farmers that works together to create a collective dynamic and share good practices and costs.
2. Agriculture Development	Guidance and support to farmers.	Training advisors to train farmers. Tool for agroecological diagnostic.
3. Financial support.	Aids for transition. Help farmers to launch or support their system.	Financial tools such as MAEC, PCAE, PEI, Vegetal Protein Plan, CAP.
4. Local stakeholders	Engage and mobilize sectors and territories.	Creation of collective projects between farmers and other partners.
<b>Practices components</b>		
5. Pesticide reduction and biocontrol	Reduce inputs of plant protection products. Enhance biocontrol and natural methods	Ecophyto plan: using less plant protection product while still enabling sufficient production.
6. Organic farming	Encourage organic farming practices.	Develop organic production, structure value chains, strengthen R&D, and train famers.
7. Livestock farming and antibiotics	Reducing the use of antibiotics inputs for livestock.	Ecoantibio plan: prudent and rational use of antibiotics. Using surveillance, training, monitoring and tools to prevent the use.
8. Soil	Enrich the soils with the 4 per 1,000 initiatives.	Incentivize stakeholders to use practices for carbon storage.
9. Beekeeping	Sustainable development of beekeeping.	Holistic approach for bee health, environment, and biodiversity. Research, training, and development of bee population.
10. Agroforestry	Using tree to improve production.	Using farmland in combination with trees.
<b>Science components</b>		
11. Seeds	Choice of the right seeds for the right climate conditions.	Help to create more sustainable modes of productions and enhance better choices of seeds.
12. Education	Training current famers and future farmers (in agricultural schools) to transmit knowledge. Increase research on agroecology.	Development of new practices. “Teaching to produce differently” action plan.

Source: Own table, inspired by the APF (Ministère de l’Agriculture et de la Souveraineté Alimentaire, 2014b)

The components of the APF listed in the Table 5-1 are organized according to their classification into social, practices, or science components. This order differs from the arrangement found in the official APF documentation. The categorization into these sub-parts reflects the distinctions and definitions found in the reviewed literature on agroecology. This approach facilitates an understanding of how each component of the APF aligns with agroecological principles.

The APF is defined as an environmental policy instrument, based on Mickwitz (2003) definition's, since it wishes to target environmental impacts linked to agriculture. It also wishes to influence people—in this case farmers—with transfer of knowledge, communication, and persuasion to reach a policy goal, in this case an agroecological transition. This will to influence people is defined in the literature by Vedung & C.J. Van Der Doelen, 2017. As part of the categorization of policies as outlined by Mickwitz (2003), this policy can be considered to be both an information and economic type of instruments, since most of the components of the APF do not impose regulatory instruments, but displays information to alter the priority of agents and provide financial aids, such as grants and subsidies (Vedung & C.J. Van Der Doelen, 2017).

### **a) Agroecology as a social movement: Collaboration and support in the APF**

*The EEIGs* - The APF places a strong emphasis on collective efforts and the integration of agroecological practices through initiatives such as EEIGs. These groups, institutionalized by national legislation (Journal Officiel de la République Française, 2014), foster collaboration among farmers, researchers, NGOs, and governmental bodies, creating a network essential for sharing knowledge and experiences. This collective approach aims at enhancing ecological sustainability and addressing social issues like rural isolation. EEIGs, supported by public funding, undertake projects that range from developing sustainable farming systems to conserving biodiversity, thus reinforcing the community's role in an agroecological transition (FAO, 2018a, 2018b; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014a, 2016).

*Agriculture development: « Diagagroeco » and Agriculture chambers* - Supporting farmers through enhanced advisory services and networks also plays a critical role in agroecological transition. The APF underscores the importance of equipping advisors with the skills necessary to help farmers innovate and improve their practices. This is facilitated by tools such as the agroecological diagnostic tools developed by the Ministry of Agriculture, Food, and Forestry, which assist in assessing and evolving farm practices. Agricultural chambers and networks such as the National Federation of Centers for Initiatives to Valorize Agriculture and Rural Environment (FNCIVAM) and the Coop de France network emphasize agroecological transitions in their operations, ensuring that farmers receive the support needed to drive sustainable changes (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Financial support: MAEC, PCAE, PEI, CAP* - Financial constraints are often cited by farmers as a major barrier to adopting agroecological practices (BASF, 2022; Gramond, 2015). In response, the APF leverages mechanisms like the CAP to provide financial aids and incentives, including grants and subsidized loans, particularly supporting the transition to organic farming and other sustainable practices. Other financial support tools exist, such as the MAEC, the Plan for the Competitiveness and Adaptation of Agricultural (PCAE) or the European Partnership for Innovation (PEI), to support farmers in their transition to a more sustainable system. These financial supports are crucial for covering the costs associated with adopting environmentally beneficial practices and for facilitating the broader integration of these practices within French agriculture (BASF, 2022; Gramond, 2015; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Local stakeholders* - Local and regional adaptations of the APF highlight the importance of tailoring agroecological practices to the diverse agricultural landscapes of France. Initiatives like the Territorial Food Project underscore the will to engage local stakeholders to adapt strategies that meet regional needs and enhance resilience and autonomy of farming systems. These efforts are supported by collaborative projects that synchronize production, processing, and distribution, contributing to sustainable local economies and food systems (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014a, 2016).

## **b) Agroecology as a practice: practices related components**

*Reduction of pesticides: the « Ecophyto » plan* - One significant component when it comes to practices is the "Ecophyto" plan, which aligns with the European Directive 2009/128/CE to reduce pesticide use and promote integrated pest management (European Parliament and Council, 2009). This component for reduction of pesticides use is essential not only for protecting public health but also for environmental and economic benefits (BALDI et al., 2021; Bjørnåvold et al., 2022; HLPE, 2019; Lampkin et al., 2020; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016). The Ecophyto plan aims to reduce pesticide use with a two-stage objective: a 25% reduction by 2020 through optimized farming techniques and another 25% reduction by 2025 through deeper systemic changes. This initiative promotes alternative techniques like biocontrol to mitigate risks to human health and the environment. (Bjørnåvold et al., 2022; Ministère de la Transition Écologique, 2018). It also includes training programs like Certiphyto, certificate for pesticides reduction, and showcasing sustainable practices through the DEPHY—network of pilot farms experimenting pesticides reductions and alternatives—thus maintaining agricultural productivity while enhancing farm sustainability (Ministère de la Transition Écologique, 2018; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Foster organic farming: "Ambition bio-2017"* - A vital aspect of the APF is promoting organic farming via the "Ambition bio-2017" program, aiming to enhance the sector by boosting production, improving supply chains, and increasing consumption of organic products. Organic farming plays a critical role in preserving water quality, soil health, and biodiversity (Bellon & Ollivier, 2018; L'agence Bio, 2023; Le Coq et al., 2020). This promotes environmental protection while driving economic and social benefits in rural communities, strengthening relationships among farmers, agri-food stakeholders, and consumers, reinforcing community cohesion. Le Foll's integration of organic farming into the APF aimed to showcase the diversity of agroecology and demonstrate that different practices, including organic farming, can contribute to the transition, without opposing models (S. Le Foll, Personal communication, April 15, 2024). The program focuses on providing extensive training for agricultural professionals and adapting regulations to support the unique needs of the organic sector. With about 42,000 organic operators on 1.25 million acres generating over €5 billion, the program highlights the potential for organic farming to contribute significantly to France's agroecological and economic landscape (L'agence Bio, 2023; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Animal breeding: the "Ecoantibio" plan* - Addressing antibiotic resistance in agriculture, the "Ecoantibio" plan, illustrates a will for to sustainable animal husbandry by reducing the use of antibiotics in veterinary practices. The widespread use of antibiotics, especially preventively in human and veterinary medicine, accelerates antibiotic resistance, threatening public health, environmental safety, and animal populations (Ahmed et al., 2020). The Ecoantibio plan targets a 25% reduction in veterinary antibiotic use within five years. The reduction of the use of "critically important antibiotics" to preserve their effectiveness for severe infections as a last resort is key to this strategy. (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Soil: "4 per 1,000" plan* - The "4 per 1000" initiative focuses on enhancing soil health as a fundamental aspect of sustainable agriculture. This initiative links agroecology with global climate change mitigation and food security efforts, showcasing the APF's alignment with international environmental goals. The "4 per 1000" Initiative, launched during COP 21 in 2015, aims at increasing soil organic content and promote carbon sequestration for enhanced food security and climate resilience. This initiative targets a 0.4% annual increase in soil carbon stocks, countering rising atmospheric CO<sub>2</sub> levels significantly. Through promoting practices like agroecology, agroforestry, and landscape management, it engages diverse national and international stakeholders in adopting land and soil management techniques for climate

mitigation and food security (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016; United Nations, 2023).

*Beekeeping: National plan for beekeeping* - The integration of apiculture into the APF through the National Plan for Beekeeping highlights the importance of bees in biodiversity and agriculture, addressing the multifaceted challenges bees face, such as habitat loss and pesticide exposure. France's commitment to apiculture is driven by the recognition that bees are essential not only to produce honey, but also for the pollination of many staple crops such as strawberries, eggplants, pears, and almonds, which are vital to the food market (Allimant et al., 2020; Crosskey, 2020; FAO, 2018a; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016). This plan is a comprehensive strategy designed to improve bee health, support environmental and research initiatives, encourage bee population growth, and aid in the training and organization of new beekeepers. It involves a wide range of stakeholders—beekeepers, agricultural professionals, researchers, policymakers, and citizens—who are collectively engaged in promoting sustainable beekeeping practices (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

*Trees: plan for agroforestry* - Lastly, agroforestry is promoted as part of the APF's holistic approach to agriculture. This method not only conserves natural resources but also enhances agricultural productivity by establishing synergistic relationships between arboreal and agricultural elements (Doré & Bellon, 2019; HLPE, 2019; Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016). The Agroforestry Development Plan outlines a comprehensive strategy with five axes and twenty-three specific actions aimed at supporting the integration of trees into farming landscapes, enhancing biodiversity, improving soil health, and providing economic diversification opportunities for farmers. This initiative exemplifies how agroecology fosters resilient agricultural systems that are both productive and sustainable (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016).

### **c) Agroecology as a science: Research, development, and education**

*Teaching to Produce Differently* - Finally, the APF places a strong emphasis on education through its "Teaching to Produce Differently" initiative, highlighting it as a foundational element for fostering an agroecological transition. France's agricultural education, as the second-largest educational network in the country, aims at integrating agroecological principles across its curricula. This effort is aimed at preparing farmers and agricultural professionals to meet future challenges with innovative, sustainable farming practices. The initiative enriches training programs and redefines educational paradigms by incorporating economic, environmental, and social dimensions, aligning with global sustainable development goals, particularly the UN's SDG 4 on Quality Education (FAO, 2018a, 2018b). This shift is reflected in the growing number of educational and research programs focused on agroecology, marking significant progress towards embedding sustainable practices within the agricultural sector (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014a, 2016; Wezel et al., 2020).

*Seed and Sustainable Agriculture Plan* - In parallel, the APF addresses agricultural sustainability through its "Seed and Sustainable Agriculture Plan" which focuses on genetic improvement to reduce dependency on chemical inputs. By developing crop varieties resistant to various stressors, this plan supports a sustainable approach to agriculture, backed by a robust regulatory framework that ensures food and health safety. The strategy involves multiple stakeholders including seed companies, seed selection companies, and seed multiplier farmers, fostering a collaborative environment for innovation. Key components of the plan include conserving genetic resources, enhancing intellectual property protections, and incorporating environmental criteria into evaluations. Initiatives such as the Agricultural and Rural Development Special Allocation Account (CASDAR), "Seeds and Plant Breeding" project further promote partnerships between public research entities and the private sector, leveraging genetic diversity

to adapt to future agricultural challenges (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2014a, 2016).

## 5.2 Engagement and Perception of the APF

The subsequent section presents findings from eight interviews and on-site observations with organic farmers in the Normandie region. These interviews focused four main themes: the specific context of each farm, organic farming practices, agroecology, and the APF (Appendix 2). The DPSIR conceptual framework, introduced in Chapter 3.2, guides the analysis of these interviews, and facilitates the exploration of RQ2 and RQ3, specifically focusing on the “Response” component of the framework. The following chapter primarily addresses “The context of the farm”, “The APF” and the “Farmers' perception” aspects.

### 5.2.1 Engagement in sustainable practices

This initial part of the interview results is design to understand the practices the interviewees are already implementing in their farms, enabling a deeper understanding of their engagement as well as their knowledge about sustainable practices, organic farming, and agroecology. Additionally, this part serves as a base to see if farmers doing organic farmers are more willing to apply agroecological practices, and therefore see if organic farmer could be a step to a more agroecological agriculture in France.

#### a) Motivations behind the organic farming choice

When exploring the motivations behind organic farming and agroecological practices, it becomes evident that farmers have deeply personal and varied reasons for choosing these paths. All interviewees, but one, had transitioned their farms to organic practices from the beginning, and up to 60 years for one interviewee (F 4). This demonstrates the longevity of their commitment and provides valuable insights into the sustainable operation of such farms.

The majority of the interviewees (six out of eight) opted for either adopting organic farming from the outset or taking over an already organic converted farm (F 2, 3, 4, 6, 7, 8). These decisions were driven by a mix of philosophical, environmental, and practical considerations. Some farmers expressed a fundamental belief that organic farming was the only acceptable way to farm (F 2, 6, 7), while others were motivated by specific goals such as preserving biodiversity and soil health (F 4) or responding to the importation of organic products that could be locally produced (F 1). Concerns about the health impacts of chemical use in agriculture were also noted (F 5).

Additionally, the autonomy and resilience of the farm were significant factors in choosing organic practices. Farmers valued the self-sufficiency gained from producing animal feed on-site, utilizing animal waste as fertilizer, and managing pests with natural methods rather than relying on chemical inputs (F 1, 3, 4, 5). Another primary motivation was the respect for the environment, including soil and water conservation, biodiversity, and the production of higher quality products (F 2, 4, 5, 8). One farmer emphasized the lifestyle choice involved, stating, *“we did not come to the countryside to poison ourselves, but to raise our kids and enjoy great air”* (F 5). This underscores the personal investment and environmental responsibility felt by these practitioners. Furthermore, the influence of community and peer recommendations was identified as a factor in the decision to convert to organic farming. (F 5).

These findings illustrate that the motivations for engaging in organic farming and agroecology are deeply intertwined with farmers' values and their connection to the land. The insights gained from these long-standing practices demonstrate a clear rejection of conventional agriculture methods in favor of a sustainable approach that respects both the environment and community well-being. This commitment among farmers supports the goals of the APF showcasing a

grassroots movement towards sustainable agriculture driven by conviction and a desire for environmental stewardship rather than solely by regulatory or financial incentives.

## **b) Relation between organic farming and agroecological practices**

The objective of this section is to identify the practices implemented by the interviewees on their farms and to ascertain their similarities with agroecological practices. This comparison is intended to demonstrate the similarities between organic farming and agroecology, as well as to illustrate the personal engagement of farmers.

All interviewees grow and sell their products using EU organic certification (Regulation (EU) 2018/848). This regulation prohibits the use of pesticides, fertilizers, chemical inputs, and emphasizes on animal well-being, genetic diversity, agronomic performance and efficiency (Radley-Gardner et al., 2016). These commitments are also core components of agroecological principles, as defined in Section 2.1.2. Therefore, interviewees were asked about their organic practices to get an overview of their existing commitments under this organic label.

Furthermore, two interviewees discussed in more detail their practices. For instance, their strategic use of crop rotations lasting seven to ten years involves alternating cultivation for a period of two to three years with pasture periods. This alternating of cultures enhances soil regeneration and carbon sequestration. This practice is in addition to the organic label guidelines previously discussed (F 3, 4). Furthermore, three interviewees engaged in fruit and cereal cultivation have adopted a strategy of avoiding inter-row and intra-field weeding. This approach is designed to preserve biodiversity and improve soil health (F 5, 6, 7).

Moreover, the integration of polyculture and livestock is a common practice, with farms combining ruminant farming and cereal cultivation to create a balanced and resilient ecosystem (F 3, 4). Two of the interviewees also employ practices such as co-cultivating wheat and fava beans, which not only enrich biodiversity and replenish soil nutrients but also enhance water retention. This multifunctional approach to farm management is exemplified by these two interviewees (F 1, 2). Following the harvest, the efficient utilization of resources is continued, with cereals allocated for human consumption and beans utilized as animal feed. The organic waste generated by crops is transformed into a valuable feed source for ruminants, while the manure produced by the animals is repurposed as a natural fertilizer, illustrating a cyclical and sustainable farm system (F 2).

These farming practices underscore the correlation and resilience fostered through organic agriculture. By integrating crop diversity, livestock, and sustainable resource management, these farms exemplify agroecological objectives of promoting environmental stewardship and enhancing agricultural sustainability. The emphasis on synergistic farm operations not only aligns with agroecological principles but also contributes significantly to the overarching goals of the APF.

This section elucidates the manner in which the interviewees integrate organic certification standards with agroecological practices, such as crop rotations and biodiversity preservation. These approaches reflect a commitment to sustainability and align with both organic farming principles and agroecological goals. An understanding of these practices provides insights into the implementation of agroecology on farms and its relevance to the APF's objectives. This, in turn, informs efforts to address agricultural challenges effectively.

### **5.2.2 Knowledge and perception of agroecology**

This section addresses RQ 2, focusing on farmers' perceptions and knowledge of agroecology and the APF. The objective of this study is to assess the extent to which farmers comprehend the principles of agroecology and the APF's initiatives, as well as their preparedness to adopt



these practices. The analysis will also examine the efficacy of the APF's communication strategies as perceived by the interviewees.

### **a) Perception of agroecology**

The sentiments expressed by farmers towards agroecology reveal a complex landscape of understanding and acceptance. While most of the interviewees—seven out of eight—held positive views on agroecology, their enthusiasm varied, with some displaying significant excitement about its principles and potential impacts. However, a recurring issue emerged regarding the comprehensive tenure that agroecology truly encompasses. For example, one farmer pointed out the lack of a clear definition, highlighting the necessity for both farmers and consumers to deepen their understanding of agroecological practices (F 3).

On the other hand, skepticism was evident among the interviewees. One provided a critical view of agroecology, describing it as a potential vehicle for greenwashing, particularly when linked with certifications like the High Environmental Value (HEV) label. This interviewee criticized the proliferation of food labels that often contribute to greenwashing within the industry. They expressed frustration with initiatives that superficially label activities such as minimal tree planting on large farms as agroforestry, questioning the sincerity and environmental impact of such practices (F 8).

Another interviewee discussed the issue of excessive conceptualization surrounding agroecology, noting that it focuses too narrowly on specific practices such as no-till farming. They expressed concern that it could lead to unintended consequences, such as the use of chemicals like glyphosate under the guise of implementing agroecological practices. This farmer's observations underscore the potential misapplication of agroecology principles, where practices intended to enhance sustainability are co-opted for chemical-intensive agriculture (F 4).

Thus, the majority of farmers interviewed express a generally positive attitude towards agroecology, with notable enthusiasm for its potential to transform agricultural practices. However, there is a prevalent sentiment of difficulty in fully understanding and defining agroecology. These perspectives underscore a critical challenge for the APF: the need to develop clear, comprehensive definitions and practical guidelines that ensure agroecology is not only well understood but also implemented effectively and authentically. By addressing these concerns, the APF can avoid the pitfalls of greenwashing and ensure that agroecology contributes positively and substantively to sustainable agricultural practices and the broader environmental goals of the agricultural sector.

### **b) Knowledge of the APF**

When queried about their awareness of the APF, a significant number of respondents indicated a lack of familiarity with the policy. Specifically, five of the interviewees confessed to having no prior knowledge of the APF (F 1, 2, 5, 6, 7), suggesting that information about this significant agricultural policy has not reached a broad segment of the farming community. One other interviewee acknowledged only a superficial recognition of the term, without a deep understanding of its details or implications (F 3). In contrast, two of the respondents were well-acquainted with the APF (F 4, 8). One interviewee had an in-depth understanding due to their professional engagement with the Perche Regional Parc (PRP) association, which actively implements elements of this policy (F 4).

This differences in awareness and understanding of the APF among farmers highlights a critical gap in communication and outreach efforts associated with the project. For the APF to achieve its intended impact, it is crucial that more substantial efforts be made to enhance awareness and

educate farmers about the opportunities and support available under this initiative. This would not only foster greater participation and compliance but also empower farmers to fully leverage the benefits of agroecological practices promoted by the APF. Establishing more robust channels of communication and engagement through local agricultural associations, extension services, and community outreach programs could bridge this knowledge gap. Enhanced familiarity with APF could lead to more widespread adoption of sustainable practices, ultimately contributing to the project's goals of enhancing agricultural sustainability and ecological health.

Despite the lack of knowledge of the APF by the interviewees, most of them are familiar with the different sections of this policy. The next segments aim to ascertain farmers' perceptions regarding the communication of various facets of the APF and whether they received support from institutions or associations in implementing the prescribed practices outlined within the program. The questionnaire intentionally omitted inquiries related to the educational and the Ecoantibio plans, as the primary emphasis was directed toward farms rather than agricultural educational institutions and veterinarians.

### 5.2.3 Engagement with the APF

#### a) Engagement with the APF: agroecology as a social movement

*IEEG* - When asked about the participation to IIEEG, none of the interviewed farmers were members, though Interviewees 3 and 4 were affiliated with other Interest Economic Groups (IEG). They mostly participated on other types of exchange groups concerning pasture management rather than IIEEGs. One interviewee involved with the Perche Regional Park (PRP) association, noted that IIEEGs are typically utilized by more intensive farms seeking to reduce their use of pesticides and chemical inputs (F 4). These groups were seen as beneficial for facilitating transitions to more sustainable practices by providing a platform for sharing best practices and offering mutual support among members (F 3, 4).

The absence of direct involvement with IIEEGs among the interviewees highlights a potential growth area within the APF's framework, particularly in broadening the reach and awareness of the benefits these groups offer. The belief that IIEEGs favor intensive farms over organic ones suggests a need for wider advocacy and education on how IIEEGs can support various farming models, including organic, in moving towards sustainable practices. This also explains why none of the interviewees were members of such groups.

*Guidance to farmers* - Among the eight farmers interviewed, only two, both fruit arborists, reported receiving specialized counseling for organic farming, indicating direct support facilitated by the APF (F 5, 6). The remaining six farmers do not receive any specialized counseling; however, three are part of groups associated with the Normandy Chamber of Agriculture, which provides some informal support and resources indirectly related to their farming practices.

This points to a gap in the APF's provision of specialized counseling, especially for farmers not affiliated with specific agricultural groups. It indicates that while some receive targeted support, others miss out on tailored advice crucial for transitioning to or maintaining organic and agroecological practices. Enhancing specialized counseling could significantly advance the APF's objectives by ensuring more farmers get the necessary guidance to improve their farming methods sustainably.

*Aids for transition* - The CAP plays a crucial role in supporting farmers with interviewees indicating they receive more substantial subsidies with organic farming than their conventional counterparts (F 7). However, views on the CAP's effectiveness and distribution vary among interviewees. One suggested reframing the CAP from "aid" to "supplementary income" to reduce the implied dependency (F 1), while another pointed out inequities in eligibility, noting that CAP benefits exclude non-landholding contributors like beekeepers, disadvantaging those

essential services for agricultural landscape (F 8). Additionally, the support for arborists under the CAP was criticized for its insufficiency, particularly for small-scale operations (F 5).

Supplementary aids from the APF, such as the MAEC and the PCAE, received positive acknowledgment. Three interviewees reported benefiting from the MAEC, which supports sustainable farming practices including maintaining at least 75% of meadows on their farms and managing hedges and ponds (F 2, 3, 4, 8). These programs are seen as vital for encouraging environmentally friendly farming techniques and providing necessary financial support to meet specific agricultural standards.

This result highlights the lack of adjustment of the CAP allocations in relation to the APF and enhance financial support to meet the diverse needs of all farmers more effectively and equitably, promoting sustainable agricultural practices across operation sizes and types.

*Local actors* – The Territorial Food Project and Mil Perche initiative, both aimed at enhancing local agricultural quality and sustainability in the PRP, have encountered significant challenges. Despite intentions to foster broad stakeholder collaboration, interviewees engagement has been notably low, with only two out of eight interviewees participating in the Territorial Food Project. Concerns were voiced about the project prioritizing tourism over agricultural advancement (F 6, 7) and displaying a rather promotional than proactive approach (F 4). Similarly, although the Mil Perche project saw some farmer participation, especially in school catering, doubts about its financial sustainability due to insufficient public investment raise questions about its long-term viability (F 4, 5, 6, 7).

Criticism extends beyond participation levels to the projects' overall effectiveness and political backing, with some farmers labeling efforts as "greenwashing" and questioning the commitment to real agricultural reform. The influence of France's primary agricultural union, FNSEA, also poses a barrier, reflecting a broader conflict between agricultural advocacy and environmental priorities (F 4). This skepticism, coupled with calls from some farmers for a return to a more diversified agricultural system, underscores a disconnect between current practices and the needs for genuine agroecological transition (F 2, 4).

### **b) Engagement with the APF: agroecology as a practice**

*Reduction of pesticides* - Despite their commitment to organic farming and thus attachment to a zero-tolerance policy for pesticides, some interviewees shared insights on the broader agricultural implications of the Ecophyto plan, which aims at reducing chemical inputs in farming. One of them critically assessed the Ecophyto plan, labeling it as a significant failure due to its high costs and inefficacy, highlighting an increase in overall chemical usage despite the plan's intentions (F 4). Meanwhile, another interviewee commented on the diminishing effectiveness of chemical interventions, which has led to increased doses of inputs over time, suggesting a troubling trend where reliance on chemicals escalates with each crop cycle (F 1).

Interviewees critiques highlight a broader concern within the APF: the necessity for more effective strategies in reducing chemical inputs across agriculture. While the Ecophyto plan is well-intentioned, their observations indicate a need for reassessment to better align with agroecological principles and environmental goals. This feedback underscores the importance of ensuring the plan supports the transition to sustainable practices for both organic and conventional farmers.

*Foster organic farming* - When queried about support for organic farming, five interviewees expressed a sense of assistance and backing (F 3, 4, 5, 6, 7). One interviewee (F 7) noted that accessing this support requires proactive engagement, implying that those who do not actively seek help might not realize it is available. Another (F 3) echoed this, affirming that support is accessible for those who pursue it. Additionally, one interviewee pointed out beneficial

exchanges facilitated by agricultural chambers and advocacy networks that promote organic farming and agroecology (F 2).

Despite this, sentiments of insufficient backing were expressed, including a beekeeper, highlighting specific difficulties in organic beekeeping such as strict standards and external pesticide contamination that curbs organic honey production (F 8). Others felt that the support systems were inadequate, noting that a significant proportion of their support came from informal networks, such as friends and family, rather than formal institutional channels (F 1).

This reflects of broader concerns among organic farmers regarding the inadequacy of institutional support for navigating the challenges of organic practices. The insights of farmers underscore the necessity for more accessible and comprehensive support mechanisms within the APF to better meet the diverse needs of organic farmers and enhance their engagement with agroecological practices, thereby bolstering the APF's effectiveness.

*Soil "4 per 1,000"* - Farmers involved in organic and sustainable agricultural practices have been actively implementing strategies to enhance carbon sequestration, aligning with the objectives of the "4 per 1000" initiative. Common practices among these farmers include using vegetal covers, diverse plant mixtures, agroforestry, and biodynamic methods to improve soil quality and increase carbon capture. Specific strategies such as integrating fava beans or vetch with traditional crops to facilitate nitrate fixation and employing extended crop rotations of up to seven years to replenish soil nutrients are noted (F 1, 2, 3, 4, 5, 6, 7).

Despite these efforts, only two interviewees felt supported or well-informed by the APF regarding the carbon sequestration plan (F 4, 6). Moreover, concerns about the oversimplification of the processes can hamper the implementation of these efforts (F 4, 6). This suggests that while a significant proportion of farmers are proactively engaging in practices beneficial for carbon sequestration, they do so more out of personal commitment and agronomic knowledge than through direct influence or support from the "4 per 1000" initiative.

Hence, while the APF's carbon sequestration plan aims to promote sustainable practices, the actual engagement by farmers seems driven by individual initiative rather than structured support from the plan.

*Beekeeping* - The interviews revealed that most farmers have collaborative arrangements with beekeepers, where hives are placed on their farms to facilitate pollination (F 1, 2, 3, 5, 6). This arrangement is particularly beneficial for arborists and vegetable growers, as one interviewee noted the limited need for pollination in cereal cultivation (F 7). Despite these collaborations, challenges persist in the beekeeping community. A beekeeper (F 8) emphasized the severe impacts of agricultural practices such as early crop harvesting before flowering, which they viewed as more harmful to bees than pesticides or drought. They even commented: *"The situation is particularly dramatic for biodiversity, and more specifically for bees"* (F 8).

This beekeeper also expressed frustration with consumer skepticism regarding the authenticity of organic honey, despite rigorous certification standards. Additionally, existing support organizations" were deemed insufficient in providing substantial support to beekeepers (F 8).

The collaboration between farmers and beekeepers under the APF needs improved institutional support to better aid bees, crucial for biodiversity and agricultural productivity. Enhancing this support will align closely with sustainable agricultural practices, benefiting both parties and the countryside landscape.

*Trees* - The APF's focus on agroforestry garnered mixed reactions from the interviewed farmers. Four interviewees appreciated the support from the PRP, which offers training and facilitates the exchange of information, helping them understand and implement agroforestry principles effectively (F 2, 3, 4, 6, 7). Specifically, the "Bois Bocage Énergie" program by the PRP, which transforms wood harvested from fields into energy, was highlighted as a positive initiative (F 2).

Nevertheless, not all feedback was positive. Some interviewees expressed dissatisfaction with the level of institutional support for agroforestry. They cited a lack of responsiveness to project requests, such as integrating trees directly within fields rather than just around them, which hindered their willingness to invest further in agroforestry practices (F 1, 7).

### c) Engagement with the APF: agroecology as a science

*Seeds* - Regarding the selection of seeds suitable for prevailing climatic and soil conditions, as well as resilience to environmental stressors, half of the interviewed farmers expressed a perceived absence of support in this domain (F 1, 2, 3, 6). They noted a significant gap in the seed sector, highlighting an industry focus on developing varieties engineered for pesticide resistance rather than non-pesticide resilience, pointing out the absence of research aimed at addressing this issue (F 1, 2, 3, 6). Conversely, other interviewees acknowledged receiving targeted support from regional organic organizations like Bio in Normandy and the Technological Institute for Organic Farming (ITAB), which provide resources for organic seed acquisition and networking opportunities (F 4, 7). Additionally, arborists benefited from support by the Protected Designation of Origin (AOP) for selecting specific apple tree varieties, though challenges persist due to high demand and limited availability of organic plants from tree nurseries (F 6).

#### 5.2.4 Overall perception on the APF

Based on the interviews, the overall outlook on the APF among farmers was predominantly negative, reflecting a general sentiment of dissatisfaction and skepticism. Despite the program's existence, a substantial portion of farmers remained unaware of its initiatives and benefits (F 1, 2, 5, 6, 7). This lack of awareness underscores a communication gap between agricultural policymakers and practitioners, hindering effective engagement with the APF.

Among those who were familiar with the APF, common criticisms centered on the perceived inertia and inadequacy of its implementation. Interviewees expressed a sense of urgency for the program to accelerate its efforts and expand its reach to address pressing environmental challenges more comprehensively (F 1, 3, 4, and 7). This urgency was underscored by references to the declining state of the environment and climate, echoing the sentiment of former French President Jacques Chirac's famous quote, *"Our house is burning, but we are looking elsewhere"* (F 5). Another interviewee voiced this urgency by stating: *"The ecological trajectory is not the good one. The stake is to go back to a reasoned agrarian system, stopping specialization and until we do it, we will not succeed"* (F 4).

Furthermore, interviewees voiced concerns about the inherent contradictions within agricultural policies, particularly the tension between environmental sustainability and the entrenched productivist agricultural model (F 2). This observation reflects broader discussions surrounding the need for agricultural policies to align with environmental objectives, balancing productivity with ecological stewardship. One farmer also voices concerns about

Additionally, disparities in perceived support within the APF were evident, with some farmers feeling left behind or underserved across various components of the program (F 1, 2, 5, 7, and 8). Criticisms were particularly directed towards the EcoPhyto plan, despite its indirect relevance to organic farmers (F 1 and 4). This disparity highlighted the need for more tailored support mechanisms to address the unique challenges faced by organic farmers, who often encounter obstacles such as pesticide contamination and certification complexities.

In the face of these challenges, there were some optimisms among farmers who viewed the APF as a positive step towards promoting agroecological transition (F 2, 3, 4, and 6). These farmers view the policy's potential and credit former Minister of Agriculture Stéphane le Foll for his visionary leadership for agricultural transition at a National and European level (F 3). However,

despite these positive sentiments, the prevailing tendency leaned towards a negative perception of the APF, indicating the need for comprehensive reform and greater alignment with the needs and priorities of farmers (F 1, 2, 5, 6, and 7).

While the APF represents a significant effort towards fostering sustainable agriculture, its effectiveness is contingent upon addressing the communication gap, enhancing support mechanisms, and aligning policies with environmental imperatives. Only through concerted efforts to address these challenges can the APF realize its potential in driving meaningful change within the agricultural sector.

### **5.3 Implementation of the APF**

This analysis evaluates the effectiveness of the APF through the perspectives of farmers and insights from the former Minister, Stéphane Le Foll. According to him, a significant achievement of the APF is the growth in the number of EEIGs, with around 20,000 farms and over 600 groups actively incorporating agroecological practices such as richer rotations and reduced chemical inputs. He also observed that agroecology has become a part of public discourse, shifting the narrative beyond the conventional versus organic farming debate, indicating a gradual increase in the acceptance and understanding of agroecological practices (S. Le Foll, Personal communication, April 15, 2024).

However, the perception among farmers suggests a discrepancy between the policy's intentions and its perceived achievements. Many interviewees view the APF primarily as a government communication tool rather than a catalyst for tangible agricultural improvement. They also express concerns about the policy's stagnation due to conflicts of interest, such as the resistance from the main agricultural syndicate, FNSEA, and pharmaceutical companies against initiatives like the Certiphyto, which aimed to reduce pesticide use. These conflicts underscore a broader misalignment between the APF's goals and the interests of powerful agricultural and industrial stakeholders, which has impeded the implementation of environmentally friendly regulations (S. Le Foll, Personal communication, April 15, 2024).

The former minister also highlighted ongoing challenges in aligning the APF with the economic and environmental performance expectations of farmers, which are often hindered by insufficient alternatives to current practices. This issue is exemplified by the FNSEA-led opposition to environmental regulations, further illustrating the significant divide between political intentions and the operational realities faced by farmers (Trompiz et al., 2024). Additionally, a farmer's personal experience with crop loss during a drought and subsequent corporate indifference reflects the broader systemic issues within agricultural supply chains that are not yet aligned with agroecological principles (F 1).

Therefore, while the APF has facilitated the integration of agroecology into the public and agricultural sectors, its full potential is delayed by systemic resistance and slow operational shifts in agriculture. Farmer experiences and opposition from agricultural syndicates reveal the gap between policy aspirations and practical realities, highlighting the challenges in institutionalizing such policies. Sustained political will, stakeholder alignment, and realistic timelines are necessary for effective institutionalization of agroecology in the French agricultural framework. The APF's struggles and achievements reflect broader dynamics in French agricultural policy, requiring government initiative and sectoral cooperation for significant change. The Figure 3-1 summarizes the results of the APF intentions and farmers perceptions.

### **5.4 Enablers and barriers for implementation of agroecology with the APF**

This section analyzes RQ3 by examining the key factors that facilitate or hinder the implementation of agroecology and the APF. The objective of this section is to identify and

analyze the various enablers that promote the adoption of agroecological practices, as well as the barriers that impede their widespread integration within the agricultural sector. This analysis provides insights into the effectiveness of current strategies and suggest areas for potential improvement in the policy framework and execution.

#### **5.4.1 Enablers for implementation of agroecology with the APF**

In order to optimize the implementation of agroecology, particularly within the framework of the APF, the questionnaire sought insights from interviewees on the factors that facilitate this transition. This section will be divided into four subparts, each representing a common theme derived from the interviewees' responses. In the context of the agroecological transition, a driver can be defined as any entity that facilitates the transition and encourages the adoption of sustainable practices.

##### **a) Group effect and collaboration**

The role of group dynamics and collaboration among farms is crucial in adopting agroecologically sound practices and policies. One interviewee highlighted the risks associated with working in isolation and stressed the importance of camaraderie and mutual support within the farming community (F 5). This notion is underpinned by their own experience since they transitioned their farm to organic methods following the encouragement and advice of friends, emphasizing the significance of a supportive network (F 5). Furthermore, the need for collective action and unity among interviewees to enhance strength and resilience was advocated by another participant (F 3).

Collaboration extends beyond social support, as shown by interviewees sharing resources like machinery and labor, especially during peak agricultural periods. This reciprocity not only builds a culture of mutual assistance but also establishes a system of non-monetary exchange that reinforces community bonds (F 6). Local initiatives such as the "Mil Perche" project, which connects producers with collective catering services, also play a pivotal role. These initiatives, facilitate smoother distribution channels, and reduce logistical burdens, enhancing the resilience of interviewees (F 6). Additionally, the support from regional and local institutions, notably the PRP, is considered crucial in fostering these collaborative networks and providing necessary guidance (F 4, 6).

Moreover, ensuring interviewees' well-being and reducing stress is vital for effective decision-making and the overall success of transitioning to agroecological practices. One interviewee noted the importance of a healthy, stress-free lifestyle to maintain creativity and motivation in farming (F 4). The diversity within the agricultural community requires tailored approaches to support, as each interviewee's needs and circumstances differ significantly (F 3).

Political conviction at both national and European levels is paramount for supporting interviewees across Europe in transitioning to more sustainable practices (F 4). Stéphane Le Foll emphasized the necessity of harmonizing EU agricultural policies, pointing out disparities among member states (F 4). He noted France's stricter norms, which some interviewees perceived as resulting in unfair competition (S. Le Foll, Personal communication, April 15, 2024). This highlights the importance of a broader EU agroecological project to address such discrepancies and ensure a level playing field. Harmonization could streamline regulations and systems, fostering a more cohesive approach to agroecology and agriculture within the European Union.

Therefore, fostering a supportive, collaborative community among interviewees is integral to the successful implementation of the APF and further implementation of agroecology. By enhancing group dynamics and local cooperation, providing institutional support, and ensuring the well-being of interviewees, the APF can effectively promote the adoption of agroecological practices that are sustainable both environmentally and socially. This community-oriented

approach aims at not only strengthening individual farms but also contributes to the resilience and sustainability of the broader agricultural sector.

### **b) Organic farming and agroecological practices**

The integration of organic farming within the APF serves to highlight its role as a crucial mechanism for the transition towards agroecological practices. All interviewees possess organic certification, thereby demonstrating that organic farming is not only a compliance with regulatory standards but also a proactive step towards sustainable agriculture. One interviewee observed that organic farming inherently espouses agroecological principles through its emphasis on symbiosis with nature, reduced input use, and enhanced farm resilience (F 4).

The push for agroecological practices also entails significant structural changes in farm operations, advocating for diversified farm systems over specialized ones (F 2). This shift promotes smaller, sustainable farms, challenging large-scale, productivity-focused operations and promoting rural revitalization and local consumption (F 3, 7). While interviewees aren't directly involved in EEIGs, these groups offer potential assistance for conventional farmers transitioning to sustainability (F 4). It's emphasized that agroecology should evolve beyond conventional organic farming, integrating practices like soil covers and biodiversity enhancement to address challenges like disease management without chemical inputs (S. Le Foll, Personal communication, April 15, 2024).

Furthermore, although organic farming is often viewed beyond mere financial gains, the economic aspect cannot be completely overlooked. One interviewee suggested that organic farming can enhance product sales (F 8), indicating a market preference for organic products. Another suggested approach involves increasing subsidies to support interviewees' transition to organic and agroecological methods, emphasizing the need for financial incentives to encourage this shift (F 4).

By supporting transitions from specialized to diversified farming systems and advocating for structural changes in agricultural operations, the APF aims to cultivate an agricultural landscape that is economically viable, environmentally sustainable, and beneficial for local communities. These strategies highlight a key driver to transforming French agriculture into a model for sustainable and integrated farm management.

### **c) Financial aids**

Interviewees have expressed a need for improved training opportunities and financial support to facilitate the transition to agroecology. To address these challenges, interviewees suggest that subsidies and aid through programs like the CAP could be better utilized if allocated more equitably. Specifically, there is a call for greater support for organic farming and agroecological practices over conventional methods (F 3, 7). Stéphane Le Foll also added that the CAP should be redesigned and renegotiated to include more environmental component, as a way to enhance a sustainable and agroecological transition (S. Le Foll, Personal communication, April 15, 2024).

Additionally, the MAEC projects are recognized for enhancing the effectiveness of the CAP by providing targeted support for interviewees transitioning to agroecology (F 3, 8). Interviewees also advocate for increased emphasis on plans like the Vegetal Protein Plan, which aims to boost local vegetable protein production, further supporting the sustainability of agricultural practices. Meanwhile, concerns have been raised about the impact of international trade agreements on local farming economies. The renegotiation of agreements such as between the EU and MERCOSUR is seen as potentially detrimental. Interviewees argue that such agreements allow consumers access to cheaper imported goods, placing local producers who cannot compete on price at a disadvantage, especially those who produce higher-cost poultry due to sustainable practices (F 2, 4), and that the agreements should be negotiated in manners that avoids any negative impact on French farmers.



Therefore, the feedback from the interviews indicates that the APF requires enhanced financial and training support to facilitate a more seamless transition to agroecology. The alignment of agricultural policies, such as the CAP and MAEC, with the needs of agroecological and organic farmers, as well as the reevaluation of the impact of international trade agreements, can further support this transition. A more extensive EU-level project is perceived as potentially advantageous for the advancement of agroecology and the future of European agriculture, particularly in France, where it would address financial constraints and enhance the sector's resilience and competitiveness.

#### **d) Awareness and promotion to consumers**

Consumer education and awareness are considered pivotal in fostering agroecology, as echoed by several interviewees who observed the necessity to bridge the gap between consumers and the origins of their food (F 3, 4, 7). This gap is further compounded by the supermarket shopping experience, where processed and packaged products fail to adequately convey the realities of agricultural labor and the environmental impacts of food production. (F 4). Additionally, it was noted that the proportion of household budgets spent on food in France is relatively small, only about 10%, indicating a potential undervaluation of food quality and production ethics (F 7). To combat these trends, interviewees advocate for consumer education on the processes behind food production and the benefits of organic and agroecological practices, hoping to foster a greater appreciation and willingness to invest in quality products (F 4). There were also calls to enhance and clarify food labeling to aid consumers in making more informed choices (F 2, 3).

Education also plays a crucial role not only in direct consumer interactions but also within broader societal frameworks such as schools and family settings, which can facilitate the cultivation of a deeper understanding and appreciation for sustainably produced products (F 4, 6). Addressing misconceptions about the scalability and efficiency of organic farming and agroecology is crucial, as some consumers hold the view that agroecology cannot sustain the global population (F 4). One interviewee challenged the conventional focus on high yields as the sole measure of agricultural success, pointing out that many crops grown in conventional systems serve non-food purposes, such as industrial sugar or biofuel production (F 3). Additionally, the marginalization of organic farming needs to be countered with positive messaging about its benefits, facilitated through the principles of agroecology (F 3).

Interviewees also noted an increasing consumer interest in healthier and environmentally friendly products, presenting a valuable opportunity to promote sustainable practices that prioritize health and equitable compensation for producers (F 1, 2). However, it was emphasized that enhancing the accessibility and affordability of organic and agroecological products is of paramount importance for the expansion of consumer adoption. (F 4).

In summary, reinforcing consumer education and adjusting perceptions about organic and agroecological farming are key strategies supported by interviewees within the framework of the APF. Improving educational outreach, labeling clarity, and product accessibility has the potential to significantly alter consumer behavior towards more sustainable choices, thereby reinforcing the goals of the APF to create a more sustainable and environmentally conscious food system.

#### **5.4.2 Barriers to implementation of agroecology with the APF**

Nevertheless, certain barriers have been identified that impede the implementation of agroecology in relation to the APF. These barriers may take various forms, including—but not limited to—a lack of financial incentives, constraints related to practices, time and staff limitations, and institutional and communication barriers.

## **a) Financial**

Financial constraints emerge as a significant imperative to interviewees contemplating an agroecological transition. One of the interviewees emphasized the inextricable link between practices and financial viability, expressing concerns over the profitability of ventures (F 3).

Primarily, interviewees highlighted substantial material costs, including investments in machinery such as tractors, storage and drying equipment, and milking machinery (F 1, 3). Dependency on machinery and fossil fuels was underscored by some interviewees, lacking viable alternatives (F 1, 5). Participation in agricultural machinery cooperatives (CUMA) mitigates some costs by facilitating shared usage, yet expenses persist (F 7). Notably, one interviewee cited a project involving the installation of a methanizer for on-farm biofuel production from waste, but the venture was shelved due to significant investment requirements exceeding €5 million, compounded by legal challenges from associations (F 1).

Furthermore, interviewees voiced apprehensions regarding the future trajectory of organic agriculture. Several interviewees expressed concerns over stagnating organic product prices, often comparable to conventional counterparts due to inflationary pressures (F 2, 3). The emergence of numerous new labels, including the HVE label, further complicates the landscape, as consumers may be more inclined to purchase these products due to a lack of information about them. While less stringent than the organic label, the HVE label is viewed by some interviewees as a form of greenwashing (F 4, 8). Notably, interviewees noted a troubling trend where disillusioned organic interviewees transition to the HVE label, eroding credibility and viability of the organic certification (F 4, 6, 8), exacerbating the financial challenges facing organic farming. Consequently, the financial implications of implementing agroecology may prove to be more challenging.

Therefore, the lack of support mechanisms such as the CAP, MAEC, and Vegetal Protein is deemed as disadvantageous for farmer. Support plans are imperative for facilitating the transition to agroecology, given the substantial investment demands associated with such endeavors.

## **b) Practices**

Another barrier to the adoption of agroecological practices revolves around practical challenges that they present. Several interviewees highlighted specific concerns and obstacles encountered when attempting to transition to more agroecologically sound methods (F 2, 3, 7, 8). For example, one interviewee expressed difficulty in completely abstaining from tilling when cultivating their fields (F 7). Moreover, the issue of seed availability presents some complications, as seeds developed over decades to withstand pesticides and chemicals pose a challenge in sourcing varieties suitable for pesticide-free cultivation and resistant to pests and diseases (F 2). Finally, they highlighted the marginalization of small-holding farms models in agricultural research, noting the consequent scarcity of data on diverse farming approaches and the challenges this poses (F 2).

Additionally, the rooted productivist paradigm in agriculture, characterized by farm specialization and a focus on maximizing yields, presents an important barrier to transitioning to a more sustainable agrarian model with smaller, diversified farms (F 2, 7). Interviewees deplore the transformation of rural landscapes into "factories" geared solely towards maximizing output in minimal time, making the prospect of shifting this model daunting (F 7).

Furthermore, interviewees voiced concerns about the influence operated by industrial entities, particularly in the food processing and chemical sectors. Some recounted experiences where agricultural advisors doubling as pesticide salespeople offered advice and product recommendations (F 5). Additionally, the dominance of food processing giants poses challenges in negotiating new organic or agroecological food labeling standards (F 2). Moreover,

discussions regarding the phasing out of glyphosate underscored the dilemma of transitioning away from reliance on such chemicals without viable alternatives (F 2), underscoring the enduring influence of these industrial players and the complexities of shifting agricultural practices.

### **c) Time and staff related**

Another significant barrier hindering the advancement of farms in an agroecological framework is the scarcity of manpower and time available to interviewees (F 2, 4, 5, 7). Many interviewees expressing this concern aspire to deepen their engagement with agroecological practices but find themselves constrained by limitations in time and workforce on their farms. Notably, the rural landscape in France is witnessing a decline in the number of operational farms as well as a deficit of enthusiasm among younger generations, exacerbating the difficulty of recruiting additional labor (F 7). Furthermore, the financial constraints and lack of investment compound the challenge of offering competitive wages to potential hires.

Moreover, it was noted that interviewees must possess adept marketing skills in addition to their agricultural accomplishments (F 4). One of the interviewees also posited that it is not a normal occurrence for a farm to experience difficulty in selling its products when there is a high level of consumer interest (F 1). Consequently, when faced with shortages in time and labor on their farms, interviewees struggle to effectively market their products, potentially initiating a cycle of financial strain, which therefore prevents them from shifting to agroecology.

### **d) Institutional and communication barriers**

Despite the introduction of the APF, institutional barriers persist, impeding effective implementation. One notable challenge stems from the administrative burden imposed on interviewees, who face excessive paperwork coupled with insufficient support (F 1, 5). Moreover, institutionalization without proactive engagement leads to limited progress, exacerbated by a lack of responsiveness from regional authorities, such as the Regional Parc, to projects requiring assistance (F 3, 7). Local political dynamics have been highlighted as further complicating matters, as agroecology struggles to gain traction as a priority, with skepticism towards ecological approaches prevailing and a prevailing sense of disillusionment with institutional support (F 2, 7). Compounding these issues is the absence of dedicated leadership to drive initiatives forward, coupled with inadequate political will, often characterized by superficial communication rather than substantive action (F 3, 4). The PRP, for instance, is perceived more as a symbolic gesture than a genuine source of aid, contributing to a broader lack of coherence in institutional efforts (F 2, 4). Moreover, according to Stéphane Le Foll, the insufficient prioritization of the implementation of broader crop rotations and soil cover in CAP discussions at the EU level, coupled with the limited duration of political mandates, impede the effective adoption of agroecology (S. Le Foll, Personal communication, April 15, 2024).

Furthermore, conflicts of interest with influential agricultural syndicates exacerbate institutional challenges (F 3), with the Ministry of Agriculture often obliged to the dominant FNSEA syndicate (F 4). This entrenchment extends to the agriculture commission, effectively under the authority of the FNSEA (F 4), thereby impeding the formulation of coherent and effective policies. Therefore, the absence of genuine political commitment and the deficiency of a harmonized European strategy further hamper progress (F 4), leaving a void in effective governance and strategic coordination.

### **e) Communication and promotion of organic farming and agroecology**

Finally, inadequate communication from institutions regarding organic farming practices (F 7), and by extension agroecology, exacerbates the challenge of raising awareness and fostering understanding among stakeholders (F 8). Despite the availability of information, the perceived lack of effective communication strategies limits the impact of outreach efforts (F 8),

highlighting the need for improved dissemination of information regarding agroecology and its principles (F 2). Moreover, the absence of comprehensive communication about the history and significance of agroecology further prevents efforts to engender public awareness and engagement (F 3).

Compounding these challenges is the phenomenon of greenwashing within the agricultural sector (F 2), where the organic label may be perceived by consumers as more of a marketing tool than a reflection of genuine agricultural practices (F 3). This ambiguity raises questions about the potential co-option of agroecology for marketing purposes. Concerns about consumer confusion and the integrity of labeling practices emerge (F 2, 8), as interviewees fear that the proliferation of labels may exacerbate consumer uncertainty (F 8), while others question the coherence of promoting organic products while simultaneously supplying large supermarket chains (F 7).

## 5.5 Summary

Despite these efforts, which have positioned France as a global leader in agroecology, farmers express predominantly negative sentiments towards the APF. These sentiments are based on dissatisfaction, skepticism, and a lack of awareness regarding the initiatives of the APF. The APF has been the subject of criticism on a number of fronts. These include the slow pace of implementation, communication gaps, contradictions in policy objectives, and disparities in support within the APF. While some achievements are noted, such as the growth of EEIGs and increased public discourse on agroecology, the prevailing perception is that the APF serves more as a government communication tool than a driver of tangible improvements. The continued existence of barriers is attributed to the resistance of agricultural syndicates, chemistry companies, and agri-food businesses, which serves to highlight the difficulty in aligning policies with practical realities.

*This analysis underscores the necessity for sustained political will and stakeholder cooperation to effectively institutionalize agroecology. Inclusivity, cooperation, and equitable policies are identified as essential for transforming French agriculture towards sustainability and resilience. These results are reflected in*

Figure 5-1 that includes the answers to the three RQs.

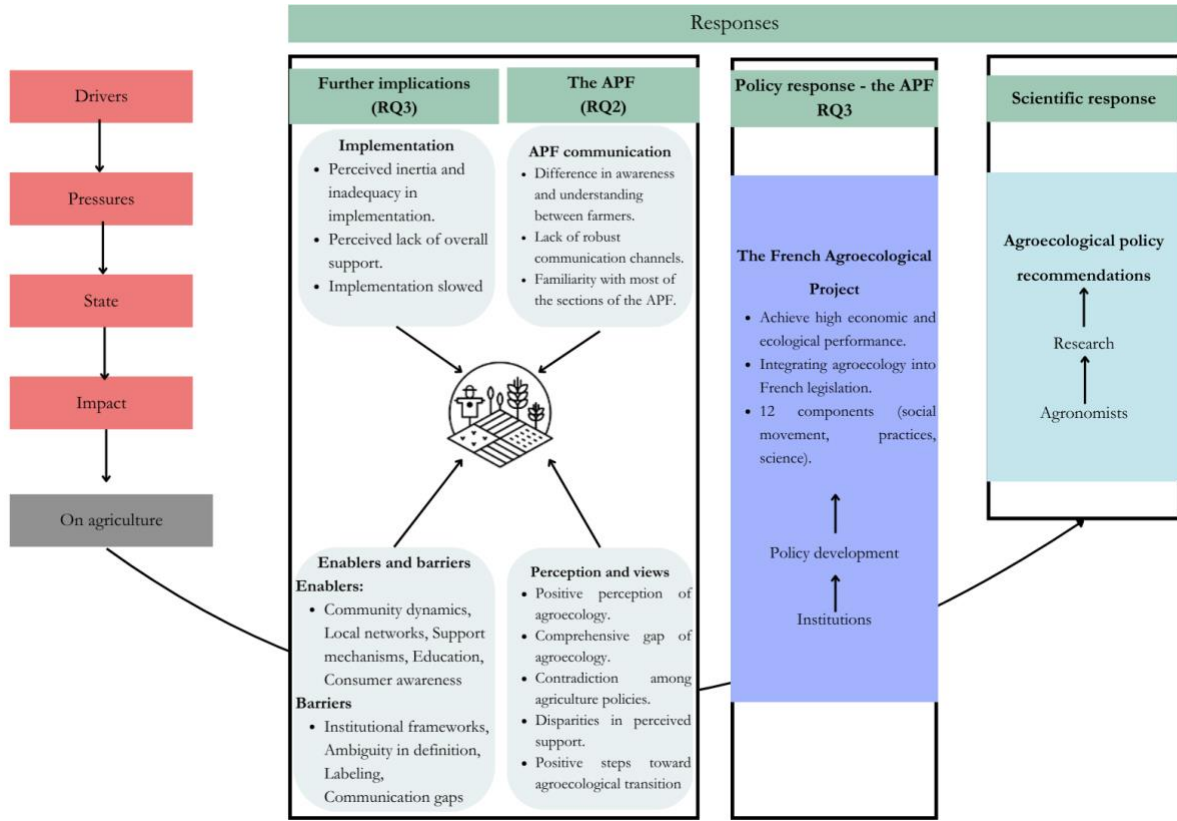


Figure 5-1: DPSIR framework - Including RQs answers  
Source: own illustration

## **6 Discussion**

This thesis examines the institutionalization of agroecology in France through the APF, aiming for a transition to a more sustainable food system. While the APF shows potential, interviews reveal negative perceptions among farmers, urging for a more ambitious policy and paradigm shift in the French food system, as well as the EU policies and financial supports. The research, utilizing the DPSIR framework, analyzes the APF's response to agricultural challenges, highlighting successes and ongoing barriers such as definitional inconsistencies, political instability, and communication challenges. It emphasizes the importance of collaboration, institutionalization, financial incentives, and consumer education in driving implementation while addressing challenges for effective policy implementation.

This chapter critically examines the key findings in relation to existing academic literature, aiming to highlight contributions and limitations. This chapter is structured around the three RQs. It further offers insights and reflections on methodological choices.

### **6.1 Discussion of the significance of the results compared to what was already known**

#### **6.1.1 Discussion around the APF intentions**

The APF had the clear intention of promoting agroecology to a broader level within the French agricultural sector. The policy comprises a total of twelve components, including financial aid, collaboration among farmers, pesticide reduction, agroecological practices, and education (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2016). To facilitate a more comprehensive understanding of the policy and its alignment with the established definitions of agroecology, an analysis was conducted to identify the elements associated with each of the three main components of agroecology: social movement, practice, and science.

France has been a pioneer country in the institutionalization of agroecology, initiating several international summits on the subject, including the Rome Symposium in 2014, the inaugural symposium on agroecology (Lampkin et al., 2020). The APF facilitated the formulation of a comprehensive plan for sustainable food production, integrating economic and ecological considerations, thereby establishing agroecology as a core objective in agricultural development (Ajates Gonzalez et al., 2018; Bellon & Ollivier, 2018). It can be argued that the APF was a prototype of the core ideas of agroecology, with the objective of introducing a novel approach to food production in France.

With regard to the social components and collaboration, a specific section of the APF was devoted to the establishment of collaboration groups and the promotion of education. However, there was an inadequacy of emphasis on community, gender equality, and social justice, as these concepts were defined in the relevant literature (Anderson & Maughan, 2021a; Giraldo & Rosset, 2018; Lampkin et al., 2020; Le Coq et al., 2020). Indeed, the social component was identified as a crucial aspect in the literature, with a focus on social justice and gender equality (Anderson & Maughan, 2021b; FAO, 2018b; HLPE, 2019), as well as access to public education beyond agricultural education (Ajates Gonzalez et al., 2018). Furthermore, it can be argued that the APF lacked support for the social aspects of agroecology, as none of the interviewees mentioned this specific component. The literature also proposed ideas about a change in governance, control, and power dynamics, which were not specifically mentioned or implied in the APF. Furthermore, the interviewees indicated that despite the establishment of territorial projects with the potential to enhance governance changes, there was a lack of support for this approach, as it was anticipated that it would foster greater collaboration among farmers and territories, thereby transforming the APF into a polycentric system, as defined by Ong & Liao, 2020.

### **6.1.2 Discussion around farmers' perception on the APF**

Prior this study, there was no existing research on organic farmers' perceptions of the APF. The only related information available included two studies focused on farmers' views on agroecology and their participation in it. This research revealed that there was considerable interest in agroecology among farmers, (BASF, 2022) of farmers were involved in agroecological practices, and the other reporting a 93% involvement rate (Gramond, 2015). Therefore, these studies showed that there is an interest from farmers in agroecology, but there was no information available regarding the APF in its current form.

The findings of this research indicate that, in general, the interviewees hold a rather negative opinion of the APF, despite their positive perception of agroecology. This policy has not been subjected to a comprehensive analysis. However, the findings of this research, which were derived from a literature review, an interview with Stéphane Le Foll, and interviews with farmers, indicate that the APF did not meet the anticipated outcomes. It is plausible that the policy was impeded by corporations and agricultural syndicates, among other factors.

The prevailing sentiment among farmers regarding the APF is largely negative, characterized by omnipresent dissatisfaction and a notable communication gap. The majority of farmers interviewed were unaware of the APF's initiatives. Those with a familiarity with the program have expressed criticism regarding its inertia and have urged for more decisive action to address environmental challenges. Moreover, criticisms have been made of contradictions in agricultural policies that fail to balance productivity with environmental sustainability. Additionally, criticism was directed at the perceived disparities in the level of support provided to farmers, with some expressing feelings of being left behind or underserved with regard to various components of the program. Despite optimism about the APF's potential under former Minister Stéphane Le Foll's leadership, the prevailing view underscores the need for urgent reforms to better meet the needs and priorities of the farming community.

This research also underscores the complexities and mixed sentiments surrounding the APF revealing significant discrepancies between its ambitious goals and the ground realities faced by farmers. While the potential for agroecology to transform agricultural practices is widely recognized, the execution and communication of the FAP have fallen short, as reflected in the farmers' testimonies and the perspectives of Stéphane Le Foll, the policy's architect. Notably, as mentioned in the Chapter 6.1.1, the social movement aspects of agroecology, a critical component highlighted in the literature (Giraldo & Rosset, 2018; HLPE, 2019), was largely absent in the interviewees discussions, suggesting a disconnect between policy intentions and the farmers' understanding and implementation of this specific component of agroecology.

The literature review and interviews underscore the urgent need for a transformative shift in the food system, emphasizing the integration of livestock into agroecological practices for sustainable agriculture. This contrasts with high-density industrial farming, emphasizing ethical and sustainable animal husbandry to enhance farm sustainability. The findings advocate for broader adoption of smaller, more diverse farms, shifting away from intensive production systems (FAO, 2018b; Giraldo & Rosset, 2018). This shift should extend beyond mere incremental adjustments to encompass a substantial reduction in the influence of politics. Furthermore, the literature indicates that some proponents of agroecology believe that it should represent a comprehensive transformation of our food production systems (Anderson & Maughan, 2021a; Giraldo & Rosset, 2018; HLPE, 2019; Le Coq et al., 2020). This transformation should address broader systemic issues such as environmental sustainability, social equity, and food sovereignty. Nevertheless, opposition from influential agricultural lobbies, such as the FNSEA, which has been criticized for promoting large-scale industrial farming at the expense of agroecological and organic practices (Denhez, 2018; Wezel & David, 2020), represents a significant threat to this transformation.

Interviewees highlighted concerns over the potential co-optation of agroecology by industrial interests, echoing broader critiques of Le Foll's "ecologically intensive" terminology (Ajates Gonzalez et al., 2018; Giraldo & Rosset, 2018; Ollivier et al., 2019). This reflects ongoing debates within the agroecological movement about the sincerity of policy changes needed for genuine sustainable agriculture. Criticisms also targeted the French government's opportunistic use of agroecology, particularly the HVE label, seen as a "greenwashing tool" by interviewees. Such labels confuse consumers and undermine genuine sustainability efforts, harming organic farming. Urgent calls for transparent labeling, supported by literature (Cour des Comptes, 2021; HLPE, 2019; Lampkin et al., 2020), emphasize the need for rigorous environmental standards. Therefore, literature suggests that proper label implementation, regulated by both the French government and the EU, can significantly influence land use and consumer behavior, crucial for the effectiveness of agroecological policies.

In summary, while the FAP has successfully brought agroecology into the national conversation, its effectiveness in achieving deep systemic change remains limited. The policy's implementation has been hindered by inadequate communication, insufficient integration of social movement aspects, and resistance from entrenched agricultural interests. For the APF to realize its potential, it must embrace a more radical restructuring of agricultural policies, actively support the social dimensions of agroecology, and ensure that agroecological practices are holistically integrated into France's agricultural framework. This requires a committed effort from all stakeholders to move beyond mere adjustments and towards a genuine transformation of the agricultural landscape in France.

### **6.1.3 Discussion around the enablers and barriers to implementation of agroecology**

To address RQ3, a set of enablers and barriers shaping the agroecological transition were identified through a synthesis of interviews and literature review. It was found that while the institutionalization of agroecology can be a facilitator, it is not the only one, and implementing an agroecological transition will require more than policies.

First, the discourse surrounding the APF in France reveals the critical role of community dynamics in its adoption and success. Through interviews, it becomes evident that collaborative efforts significantly contribute to enhancing resilience to agroecology. These collaborative endeavors are supported by academic literature, which emphasizes the importance of strong local and regional networks (Bellon & Ollivier, 2018; Lucas, 2021). These networks not only facilitate the exchange of knowledge but also provide crucial support systems for farmers engaged in agroecology. In accordance with the agroecological transition theory, the networks must be polycentric, meaning that they should be based on multiple central elements or actors (Ong & Liao, 2020). This structure ensures that the networks are not overly reliant on a single source of information or support, as it is the case in a monocentric model as it is today.

Additionally, institutionalization of agroecology within existing legislative frameworks and the implementation of economic incentives emerges as essential steps for the APF's success. Interviewees have emphasized the need for equitable subsidies and comprehensive support mechanisms to facilitate the transition.

However, challenges arise due to the lack of a clear definition and unified approach to agroecology (Ajates Gonzalez et al., 2018; Lampkin et al., 2020), hindering its integration into institutional frameworks (HLPE, 2019; Le Coq et al., 2020), meaning that addressing this ambiguity is vital to ensure coherent policy implementation and effective support for agroecological practices.

Education and consumer awareness also play pivotal roles in the advancement of agroecology. Interviewees emphasized the necessity of enhancing public education initiatives and



implementing clearer labeling to bridge the gap between consumers and the sources of their food. This is consistent with existing literature, which indicates that enhancing education and awareness initiatives can significantly support the transition to sustainable agricultural systems (FAO, 2019; HLPE, 2019). However, the APF's concentration on agricultural education may inadvertently exclude broader public awareness initiatives, which could impede the efficacy of educational efforts to align consumer behavior with sustainable practices. By increasing consumer understanding and demand for sustainable agricultural products, it can further incentivize farmers to adopt agroecological practices.

Furthermore, practical challenges such as time constraints and staffing shortages. These operational challenges suggest that policy measures need to extend beyond legislative frameworks to include robust support systems that address the day-to-day realities of farmers. Financial assistance, educational initiatives, and policies encouraging smaller-scale farming operations are crucial for facilitating the transition to agroecology (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2022).

Additionally, divergence between grassroots experiences and broader policy intentions serves to highlight barriers in the implementation of the APF. While the APF has initiated discourse on agroecology, its efficacy remains challenging to ascertain, suggesting a discrepancy between policy aspirations and actual outcomes (Lampkin et al., 2020). The policy's inability to substantially reduce pesticide use and mitigate the influence of dominant agricultural syndicates, such as the FNSEA, is a significant criticism (Bjørnåvold et al., 2022; Denhez, 2018). These syndicates are viewed as barriers to the transition toward environmentally sustainable and financially viable agricultural practices, reflecting broader systemic issues that favor industrial-scale farming (Bjørnåvold et al., 2022; Denhez, 2018). This systemic resistance within the French agricultural framework prioritizes industrial-scale operations over agroecological principles. Overcoming such resistance necessitates addressing the deeply rooted productivist values that are incompatible with the principles of agroecology.

Additionally, political instability can be perceived as another barrier. As previously stated by Stéphane Le Foll, the political mandates in question are considered to be relatively brief for such a substantial undertaking. Consequently, it may prove challenging to implement a project of this nature, particularly in the event that the subsequent government does not pursue a comparable trajectory in relation to agricultural policy.

Consequently, the APF encountered difficulties in aligning its policy intentions with the practical implementation of its policies. While the profile of agroecology has been successfully raised, systemic resistance and inadequate support have hindered the realization of its potential. In order to achieve success, the APF must cultivate an inclusive community and provide robust support that extends beyond conventional paradigms. Moreover, in addition to the mere institutionalization of the initiative, enhanced cooperation, education, and the implementation of equitable policies are of paramount importance. Despite representing a significant institutional effort, the APF encounters obstacles such as powerful agricultural syndicates and industrial resistance. To overcome these challenges, it is necessary to adopt a flexible approach and implement holistic solutions. The success of the APF will depend on the ability to address the structural and practical hurdles that currently exist. To develop an effective vision for the future of agriculture, it is essential to integrate socio-economic, environmental, and educational considerations into a comprehensive framework

## **6.2 Limitation and reflections on the results of the study**

The chosen research methodology proved to be the most suitable to explore the subject matter, providing valuable insights aligned with the objective of the study. Nevertheless, there are areas within this thesis where alternative approaches could have been considered.

The findings of this study have the potential for broader generalization, especially in countries where agroecological policies are prevalent. Moreover, the insights collected regarding perceptions of agroecology, along with the identified enablers and barriers elucidated by farmers, offer valuable contributions to the discourse surrounding agricultural policies and advocacy for agroecology. Furthermore, this research could serve as a benchmark for evaluating the feasibility of similar policies in other national contexts.

Employing the DPSIR framework, adapted to emphasize the response aspect, facilitated a nuanced understanding of policy implications in addressing environmental challenges. The framework proved to be an effective guide for the analysis. However, it would have been advantageous to develop or enhance frameworks specifically tailored to agroecology and policy, although constrained by time limitations. While this framework effectively guided the analysis, it would have been advantageous to develop or enhance frameworks specifically tailored to agroecology and policy, although constrained by time limitations. Moreover, the researcher's limited knowledge in the field of agronomy is a limitation of this study since some topics, especially related to practices, might have been overlooked.

Although the RQs were largely addressed through insights collected from policy goals and farmers' perspectives, a more diverse range of viewpoints, particularly from non-organic farmers, might have provided additional depth and breadth of understanding. Incorporating interviews with farmers employing conventional production methods, not necessarily affiliated with organic or sustainability labels, would have offered a broader spectrum of perspectives on agroecology and the APF, thus reducing potential biases.

It is possible that further research questions could have emerged from this study. For instance, it might be relevant to investigate the willingness of organic farmers to adopt agroecological practices without the support of policies. Another path for further research could be to examine the potential of organic farming as a means of achieving agroecological goals.

The qualitative case-study approach, centered on semi-structured interviews with organic farmers in Normandy, was appropriate given the absence of existing research on the APF. However, engaging farmers employing conventional methods could have augmented the study's comprehensiveness and provided contrasting viewpoints. Additionally, employing focus groups could have facilitated collective discussions among farmers, offering further insights into their perceptions and identifying additional enablers for agroecological transition.

While the selected theory provided a solid foundation, exploring additional theories, such as socio-technical theory or perception theory, could have enriched the analysis. Additionally, exploring alternative theoretical perspectives and frameworks could have provided additional analytical depth. Despite these considerations, the research successfully sheds light on the perceptions and challenges surrounding agroecology and the APF, contributing valuable insights to the discourse on agricultural policy and sustainability.

## 7 Conclusions

As stated in the Chapter 1.3, the aim of this thesis was to grasp the goals behind the APF, how this policy has been perceived by the farmers since its implementation and the potential enablers and barriers to enhance agroecological transition with the APF. To this end, the study concentrated on the perceptions and engagement of farmers with regard to the APF, as well as their knowledge of this topic.

This research aim will be addressed by answering the following research questions that guided this research:

**RQ1: How did the APF intended to advance agroecology in France?**

**RQ2: How is the APF communication perceived, understood, and implemented by organic farmers in Normandy?**

**RQ3: What are the barriers and enablers for farmers to implement agroecology and for the success of the APF?**

### 7.1 Empirical conclusions

The APF's aim to institutionalize agroecology within French agriculture has shown mixed outcomes. While progress has been made through educational and policy endeavors, significant hurdles persist, including institutional resistance and insufficient communication and education. Large agricultural syndicates also wield considerable influence. To advance APF's objectives, a concerted effort is needed to bridge the gap between policy ambitions and farmers' realities, increase public understanding, and redefine the agricultural paradigm in line with agroecological principles. This holistic approach would not only reinforce the environmental and economic sustainability of French agriculture but also position it as a global leader in equitable food systems and might inspire other countries or institutions to replicate agroecological policies.

Consequently, while the institutionalization of agroecology via the FAP marked an important first step towards agroecological transition, further adaptations to the food production and distribution system are necessary to foster a more collaborative, integrated, and community-oriented agricultural approach.

**RQ1: How did the APF intended to advance agroecology in France?**

The APF was designed to facilitate agroecological transition through its twelve components. The APF embodies a holistic approach to agricultural transformation, encompassing components such as EEIG, pesticide reduction, organic farming, and agroforestry. Each component encapsulates Le Foll's overarching vision of cultivating a more sustainable and equitable agricultural sector for the French landscape.

Using the DPSIR framework, the policy's response aspect was analyzed to discern its role in addressing environmental and climate challenges in agriculture. Initiated by Stéphane Le Foll, former French Minister of Agriculture, the APF was influenced by international research and insights, culminating in the enactment of the "Law for the Future of Agriculture" in 2014. This legislation, aimed to redefine agricultural practices and installs agroecological principles into agricultural education.

Le Foll's vision transcends borders, positioning France as a global leader in agroecology. France's sponsorship of the inaugural FAO Agroecology Symposium in 2014 underscores its commitment to sustainable agriculture. This proactive stance exemplifies agroecology's transformative potential in shaping global agricultural policy paradigms. The APF serves as a model for designing policies to enhance agroecology, offering valuable insights for international adaptation. When drawing on the APF, this shows that there are ways to design policies to enhance an agroecological policy, and that this could be pushed at a more international level.

**RQ2: How is the APF communication perceived, understood, and implemented by organic farmers in Normandy?**

This study reveals communication gaps in disseminating the FAP to organic farmers in Normandy. While some were aware of the policy and its components, many lacked comprehensive knowledge. Moreover, disparities exist in the perception of agroecology, with varying levels of passion and understanding among farmers. Concerns arise regarding agroecology potentially being co-opted as a greenwashing term by politicians. Discrepancies also emerge in perceptions of the APF, even among organic farmers. While some view it as promising and a good first step into the agroecological transition, others fear it may be used for marketing purposes, similarly to the perception on the HVE label. Ultimately, interviewees perceive the APF as unsuccessful due to its discontinuation, attributing this to the influence of majority syndicates, agri-food businesses, and subsequent governments.

**RQ3: What kind of barriers or enablers are there for farmers to implement agroecology and to follow the APF?**

The study on enablers and barriers for organic farmers in Normandy transitioning to agroecology and adhering to APF guidelines reveals a complex landscape influenced by a multitude of factors. Community dynamics—exemplified by initiatives like "Mil Perche"—underscore the power of collective action in bolstering agroecological resilience. Moreover, strong local networks further facilitate knowledge exchange and support for transitioning farmers. However, institutionalizing agroecology within legislative frameworks and providing economic incentives remain critical for the APF's success. However, challenges arise from ambiguity surrounding agroecology's definition and integration into institutional frameworks, necessitating clear policy definitions and robust support mechanisms. Additionally, education and consumer awareness are crucial in bridging the gap between consumers and sustainable agricultural products, requiring strengthened public education initiatives and clearer labeling. Addressing challenges such as an aging farmer population and the burden of agricultural work necessitates supportive measures like financial assistance and policies encouraging smaller-scale farming operations. Thus, overcoming communication gaps and systemic resistance from dominant agricultural syndicates are crucial for mainstreaming agroecology. To succeed, the APF must foster inclusivity, cooperation, and equitable policies, ultimately transforming French agriculture towards sustainability and resilience.

## **7.2 Recommendations for policy makers and practitioners**

The findings of this study have practical implications, particularly for policymakers both at national and EU levels. It is imperative to recognize that transitioning to agroecology entails more than merely institutionalizing it. While this represents a crucial initial step, a comprehensive and profound change of the modern agricultural system is necessary. This involves considering the interconnected aspects of livelihoods, soil health, climate conditions, and the well-being of farmers. Efforts should be directed towards promoting localized, respectful, and synergistic agricultural practices that honor the labor of farmers and the surrounding ecosystems. Furthermore, there is a pressing need to reassess our production models, prioritizing smaller-scale farms and diversified production methods. Therefore, it is imperative that agricultural policies shift towards a greater emphasis on small-scale farming, with a concomitant reduction in the prioritization of factory farming, representing today the dominating model.

Additionally, institutionalization of agroecology frequently reflects a perspective that is primarily oriented towards the Global North. In contrast, many countries in the Global South predominantly rely on smaller-scale family farming, with 75% of farms globally being smaller than 2 acres. This underscores the importance of revisiting the production paradigms of the

Global North, which prioritize profits and productivity, and drawing inspiration from the models prevalent in the Global South that emphasize smaller-scale farming.

### **7.3 Recommendations for future research**

For future research, it would be beneficial to expand the scope to include a diverse array of farmers across France, representing a range of cultural and production systems. Such an approach could enhance the research results. This would entail engaging farmers who practice organic, permaculture, conventional, agroecological, or off-soil methods, among others. This would provide a more nuanced understanding of the perspectives and decision-making processes of less engaged farmers. Furthermore, comparative studies could investigate the effectiveness of various sustainable food systems, determining whether they are compatible with or incompatible with agroecology. This would inform the selection of the most appropriate model for implementation.

Further research could also examine consumer perspectives on agroecology, looking at current consumption habits and willingness to support sustainable productions. Additionally, understanding consumer readiness for an agroecological transition is crucial in gauging the feasibility of shifting away from the current dominant model.

Exploring the state of agroecology in the Global South, particularly in Latin America, presents another intriguing research avenue. Investigating whether agroecological practices will naturally proliferate or require institutionalization is key, along with understanding how to engage all stakeholders in facilitating this transition.

Lastly, examining the scalability of policies like the APF on a global scale warrants investigation. Assessing the feasibility of implementing such policies at the European and international levels, along with strategies to incentivize and promote them as new models of food production, could pave the way for broader adoption of agroecological practices worldwide.

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# Appendices

## *Appendix 1: Consent form*

Mémoire de fin de Master sur l'agroécologie

### **Introduction et objectif du projet.**

Ce projet est lié avec un mémoire de fin de Master en Management et Politique de l'Environnement, effectué à l'Université de Lund, en Suède.

Ce mémoire cherche à comprendre si et comment des politiques autour de l'agroécologie peuvent permettre une transition vers une production agricole plus durable. Dans ce cadre, je réalise des interviews auprès d'agriculteurs avec des types de production différentes, afin de comprendre leur perspective sur l'agroécologie, et plus particulièrement sur le « Plan Agroécologique pour la France » (PAF), initié en 2012 par l'ancien ministre de l'agriculture, Stéphane Le Foll.

En effet, un nombre grandissant de recherches se font en ce moment sur le modèle agricole actuel, ainsi que sur l'agroécologie, afin de proposer des solutions plus durables à l'agriculture moderne, considérée comme trop émettrice de CO<sub>2</sub>, utilisant trop de ressources (eau, soja pour les animaux), et ayant un lien avec la pollution de l'eau et des sols.

Ce projet vise à :

- Comprendre les pratiques agricoles des agriculteurs.
- Recueillir les avis des agriculteurs sur les politiques actuelles, surtout le PAF.
- S'informer sur les aides pour une transition durable.

### **Procédures**

Dans le cadre de ce mémoire, je souhaite interviewer des acteurs du monde agricole. Il y aura une série de questions ouvertes à propos de vos pratiques quotidiennes, vos connaissances et votre vision de l'agroécologie, ainsi que votre perception des politiques telles que le PAF. Vous pouvez répondre à ces questions avec autant de détails que vous le souhaitez. Vous pouvez aussi ajouter des informations qui ne vous sont pas demandées mais que vous considérez importantes. Les interviews devraient durer approximativement 60 minutes en fonction de vos réponses. Les informations collectées seront utilisées pour une publication académique, et potentiellement pour de la recherche académique.

Avec votre permission, j'aimerais enregistrer ces interviews pour avoir une retranscription la plus fidèle possible à vos réponses. Ces enregistrements seront utilisés uniquement pour transcrire vos réponses. Vous pouvez aussi choisir de ne pas être enregistré, et dans ce cas vos réponses seront prises sous forme de notes. L'enregistrement peut être arrêté sur votre demande et l'interview peut être arrêté à tout moment si vous ne souhaitez pas continuer.

### **Confidentialité et gestion de données**

Les informations collectées pour cette recherche seront reportées de manière à préserver la confidentialité, sauf demande contraire de votre part sur le formulaire de consentement ci-joint. Pour assurer la confidentialité, les données seront stockées en toute sécurité et ne seront vues que par les personnes concernées par ce projet. De plus, des pseudonymes (plutôt que votre vrai nom) seront utilisés dans les publications — à moins que vous ne souhaitiez expressément être identifié par votre nom sur la publication.

### **Compensation**

La participation à cette recherche est volontaire et aucune rémunération n'est prévue pour la participation à cette étude.

### **Droit du participant**

Pour rappel, en tant que participant, vous avez le droit de :

- (a) Se retirer du projet à tout moment et retirer toutes les données non traitées/ non publiées (y compris les images) précédemment fournies.

- (b) Être assuré que le projet est destiné uniquement à des fins de recherche.
- (c) Soyez assuré que toutes les informations personnelles que vous fournissez seront protégées et divulguées uniquement lorsque vous avez consenti à la divulgation ou si la loi l'exige.
- (d) Être assuré que la sécurité des données de recherche sera protégée pendant et après la fin de l'étude.

### Questions and Contacts

Justine Auvrignon, International Institute for Industrial Environmental Economics (IIIIEE) Université de Suède.

Email : justine.auvrignon@gmail.com

### Formulaire de consentement

Ce formulaire a pour but de garantir que vous avez reçu des informations sur le projet de mémoire (voir la fiche d'information au verso) et de vous donner la possibilité de confirmer que vous êtes prêt à participer à cette recherche. Pour toutes les activités ci-dessous, veuillez indiquer laquelle s'applique à vous :

<input type="checkbox"/>	J'ai été <b>familiarisé avec le projet</b> , j'ai eu la possibilité de <b>poser des questions</b> et j'ai reçu <b>des réponses satisfaisantes</b> à mes questions
<input type="checkbox"/>	En tant que participant à la recherche, je suis conscient de <b>mon droit de retirer ma participation</b> à tout moment.
<input type="checkbox"/>	J'accepte que l'entretien soit <b>enregistré, transcrit</b> et <b>analysé</b> en audio.
<input type="checkbox"/>	J'accepte d'être <b>identifié par mon organisation</b> .
<input type="checkbox"/>	Je comprends que les résultats de la recherche seront présentés de manière à ce <b>qu'aucune information ne puisse me remonter personnellement</b> .
<input type="checkbox"/>	J'accepte qu'un enregistrement de mon entretien puisse <b>être conservé en toute sécurité</b> pour référence future.

**Note :** Votre participation est volontaire. En tant que personne interrogée, vous n'êtes pas obligé de répondre à toutes les questions posées ; vous vous réservez le droit de refuser ou de cesser de participer au processus d'entretien sans indiquer de raison et pouvez demander à garder certains documents confidentiels.

Veuillez signer ci-dessous pour confirmer votre consentement :

	Participant(s)	Chercheur(s)
<b>Nom(s)</b>		
<b>Signature(s)</b>		
<b>Date(s)</b>		

*Appendix 2: Interview question guide*

**INTERVIEW QUESTIONS**

I. Context of the farm (observation):

1. What kind of culture do you have? What is the size of your farm?
2. *(Who do you mainly sell your products to (industrial, mass distribution, market, direct sales from the farm)?*
3. *You have been established since XXXX, have you noticed any changes in terms of climate and seasons which have impacted your production?*
4. *Could you describe the daily practices on your farm in more detail? What is a day on the farm like in general?*

II. Organic farming (if certified)

5. You are certified in organic farming: what were the motivations for this conversion for you?
6. What has changed in your conversion process to organic farming compared to your previous practices?

III. Agroecology

7. Are you familiar with agroecology?
8. Would you say that you are committed to an agroecological approach? (SQ2)
9. If yes, what type of agroecological actions are you putting in place? (SQ2)
10. What do you think are the benefits that agroecology can bring you on your farm? (SQ3)
11. What are the obstacles that limit you the most from getting involved or getting more involved? (SQ3)

IV. The PAF

12. Have you heard of the French Agroecological Project? (SQ1)
  - a. If yes, how did you find out about it? (SQ1)
13. The plan includes 12 criteria: education, EEIG, pesticides, advising farmers, helping with the transition, organic farming, local stakeholders, Ecoantibio, seeds, soil (4 per 1000), beekeeping, and agroforestry.
  - a. Are you familiar with all these practices? (SQ1)
  - b. Are you implementing these practices? If so, did you do it before knowing about the PAF? (SQ2)
14. Do you receive advice from a specialist advisor for agroecology? Are you in communication with the local chambers of agriculture? (SQ1)
15. Agroecological practices linked to the PAF: answer yes or no to the following questions (SQ2):
  - a. Ecophyto: do you feel supported in the reduction of phytosanitary products and in the increased use of biocontrol?
  - b. Organic farming: do you feel supported and advised on organic farming and how to make a transition?

- c. If you breed animals: do you feel supported in reducing the use of antibiotics and implementing animal welfare practices?
  - d. Seeds: do you feel supported in choosing suitable seeds?
  - e. Carbon sequestration: do you feel supported in the 4 for 1000 plan (which encourages the implementation of plant cover, soil restoration, planting trees and plants that fix nitrogen, nourishing the soil with manure and compost and collect water at the base of the plants)?
  - f. Beekeeping: do you work with beekeepers to develop beekeeping?
  - g. Agroforestry: do you feel supported in implementing agroforestry?
16. One of the main obstacles to these changes in practices is the financial factor: are you aware of the different financial aids that are available in connection with this project (“MAEC”, “PCEA”, “Vegetable protein plan”, “PEI”, “National Rural Network”)? (SQ1)
- a. If so, how did you hear about it?
  - b. Did you benefit from it?
17. In Perche Regional Parc, a territorial food project was set up in 2019. (SQ1)
- a. Are you aware of it?
  - b. If so, are you participating?
  - c. Do you collaborate with the Perche Regional Parc, and if so, how?
  - d. What is your perception of the initiatives implemented at the territorial level?
18. What is your perception of this project? In your opinion, could this be a project that really helps the transition to more sustainable agriculture? (SQ1)
19. Knowing this plan and what it involves, would you say that there are barriers or facilitators to the implementation of agroecological practices? (SQ1)
20. Do you think that agroecology should be promoted more to consumers? If yes, by what means do you think?



*Appendix 3: Stéphane Le Foll's interview guide*

- 1) Could you please elucidate the process by which this plan was devised? Was this a matter about which you felt strongly when you were appointed Minister of Agriculture?
- 2) Did the policies of other countries inform your approach to agro-ecological policy?
- 3) Do you consider the initiative to have been a success?
- 4) Did you have the opportunity to consult with farmers after the plan was implemented to gain their insights on the matter?
- 5) What factors contributed to the policy's shortcomings?
- 6) In your view, is an agro-ecological approach the sole solution to the environmental and social challenges inherent to agriculture?
- 7) Would a policy of this nature be feasible and beneficial at the European level?

*Appendix 4: List of participants*

Categories		Respondent	Date of Interview	Interviewee
Organic farming (Certified)	Polyculture	F1	17/03/2024	Meat, hemp, lentils, wheat, quinoa, fava beans, oat, buckwheat. 670 acres.
		F2	18/03/2024	Meat, milk, cereal production for animals. 150 acres
		F3	21/03/2024	Meat, milk, wheat and spelled. 140 acres
		F4	22/03/2024	Meat, wheat, spelled, buckwheat, fodder crops. 145 acres.
	Arboriculture	F5	5/03/2024	Apple and pear cider, apple liquor producer. 24 acres
		F6	25/03/2024	Apple cider, fruit juices, vinegar, sparkling drinks producer. 20 acres
	Cereal and oilseed production	F7	18/03/2024	Cereal (wheat, red burgundy wheat) and bread producer. 30 acres.
	Apiculture	F8	21/03/2024	Beekeeper and honey producer.