Review

Sustainability—Risk—Resilience: How Does the Case of the Good Agricultural and Environmental Conditions Measure up?

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Abstract: Farmers are challenged to reconcile the demand for environmental goods, food security, and the viability of rural societies, by negotiating price volatility, land use drivers, climate change, and demographic issues. Alongside such challenges, a new, widely discussed concept of farm resilience has emerged. The triangle of sustainability, resilience, and risk enables the basis to be set for a conceptual framework of Good Agricultural and Environmental Conditions (GAEC). Herewith, it is demonstrated how the proportions of this triangle change; reasons for the implementation of GAEC as sustainability standards for EU farms are analysed. Firstly, ways in which its principles have evolved over the past two and a half decades are investigated. The question of whether and how the GAEC framework reflects its own starting points linked to sustainability, risk, and resilience is also examined. These have evolved into something different, due to success having created new economic actors, seeking more complex, open economic, and political institutions than those provided by a state-centric model of development.

Keywords: standards; rural development; actors

1. Introduction

Farmers today face challenges to reconcile the demand for environmental goods, food security, and the viability of rural societies [1–6]. Farmers also have to negotiate the price volatility of agricultural commodities [7], land use drivers of technology, bioenergy markets, climate change, and demographic issues [8–16]. These are only a few issues framing the notion of sustainability, as it took the floor on farm agendas in the past and has been doing in recent decades, with regard to the efficient use of natural resources. Next to such new challenges, a new concept of farm resilience has emerged to face the risks brought about by modern agriculture. Farm resilience was negotiated intuitively, before it was recognised as an integrative domain of public discourse [17–21]. Resilience was gradually defined as the capability of a system to return to a stable state after a shock, upheaval or major disturbance. Resilience is a capability demonstrated by socioeconomic systems, such as farms, similar to the resilience of natural systems, such as wildlife linked to the bioclimatic variables of farmland [22,23]. Our endeavour takes as a starting point the recognition of the existing theory and practice of farm resilience. At the outset of sustainability and resilience featuring on farm agendas, risk was a separate domain. It had to be negotiated by farmers and relevant social stakeholders with respect to the serious issues of a bio-technological, bio-economic, or biosocial character, which were typically regulated for many decades through some of the highly specific provisions of farm practices, which are not easily translatable to the popular public. Increasingly, policy agendas aiming to translate the “risk society” limits (e.g., Giddens [24] and Beck [25]) have recently fought their way to the foreground, with particular emphasis on agricultural risks [26–31]. Notwithstanding this shift, the sustainability...
and resilience agendas of farm practices have emphasised the reaction or approach to ecosystem risk management especially clearly. The triangle of sustainability—resilience—risk is discussed here, in order to gradually provide the conceptual framework of this paper. Using the literature addressing Good Agricultural and Environmental Conditions (GAEC), we demonstrate the changes in the proportions of this triangle.

It is widely known that modern profitable agriculture, built on the idea of unmistakable rationality over the period of the past 25 years, has considered reasonable costs as a result of the “irrationality of rationality”. What is irrational about the rational? It is when farmers face unpredictable food prices and a less certain framework of global policy with effects on outcomes [32]. Such a situation calls for resilience, that is, a new understanding of economic action, as a form of social action [33]. The rediscovery of the Polanyi notion of substantive economy [34] offers reasons why farmers are also challenged to respond to societal demands for natural resource protection. Agriculture can no longer choose among scarce means; therefore, it partly contradicts the nature of the formal meaning of “economics”, in Polanyi terms. Rather, agriculture must increasingly demonstrate its substantive meaning, as highlighted by [35], thereby reflecting on the interaction between man and his social or natural environment. In simple words, agriculture is about survival, it is about relationships to other people and to nature, which can easily be forecast and subordinated under the rules of formal logic which are so typical in mainstream economics, to the effect of neglecting “non-economic” factors [33,36].

The outcome of such a transformation reflects the call of Newby [35,37] for a “new rural sociology”, set out to link agriculture with environment i.e., known as the environmental shift in Rural Studies [38–41]. This is not simple. GAEC is one of the empirical examples of such a shift. GAEC is a practice echoing questions of whether farm activities correspond to certain sustainability standards (sustainability is close to the substantive meaning of economic action). Recently, such questions are increasingly being debated within the EU [42–47]. Here, evaluators tend to lean towards the risks to ecosystems, the risk of rural poverty, and the prevention of risk, and to understate the economic risks that farmers have to deal with. In contrast, global discussions tend to place an emphasis on resilience to the handling of economic risks whilst safeguarding sustainability [48–51]. GAEC is an acknowledged set of standards having two goals: first, to protect natural resources, and second, the goal is borne out by an aspiration to provide benefits to people, plants, the environment, groundwater, society, the rural economy and rural community. Thereby it indicates a shift in agriculture towards substantive economics [34]. This also means a shift to a less centrist position of agriculture in the rural paradigm (evoked by Giddens [24] and Beck [25], whose work we discuss in more detail in this text). The objective of this article is to show how the initial formulation of GAEC as a sustainability approach is, in time, slowly being linked to the two other points of the sustainability triangle, i.e., risk and resilience.

Our aim is to show if and how the GAEC framework reflects its own starting points linked to sustainability, risk and resilience. We propose starting from the evolution of GAEC principles (i.e., the study of documents) and the analysis of the reasons for implementing GAEC (i.e., a review of Social Science and Agricultural Science literature). The paper is structured in three parts. Firstly, GAEC evolution is discussed in connection with the European Union (EU), as well as with international compliance standards. Secondly, we clarify sustainability combined with resilience and risks in the context of rural farmland. Thirdly, we offer a synopsis of the GAEC sustainability—resilience—risk within the sociology debate.

2. Methods

The choice of methods to collate and analyse documents focuses on three domains of the archive search: Agricultural Science and Social Science articles from the Web of Science, Social Science literature, mainly in book format, and EU studies.
2.1. Agricultural Science and Social Science Articles

The study relies on a keyword search applied in the Web of Science articles. The search is not limited by publication year. The most relevant articles for the analysis of Agricultural Science are the result of performing a keyword search. Reference is made to several terms in order to collate the inclusion criteria: standards, sustainability, risk, resilience, farm, and farming systems. As a complementary method of the keyword search, the secondary term was tested in the automated search of documents. For example, where the primary search yielded few documents, or studies without a pronounced international component, e.g., as was the result of the search with the keyword “risk”, we applied a secondary term. In the example discussed, the secondary term is “biosecurity”, which is often used in inverse relationship to the keyword. As a result, the preliminary search yielded a list of 523 articles. These had to be narrowed down with the same set of inclusionary criteria. This step allowed us to filter the documents hereby reviewed.

2.2. Social Science Literature

Social Science was taken up as an important strand of literature. In addition to the Web of Science articles, studies in book format were collected around the principles of substantive economics as an institutionalised process. The principles that allowed us to discuss substantive socioeconomics from the perspective of the three points of the triangle, sustainability—resilience—risk, was the new Rural Sociology.

2.3. EU Studies

The methodical search concentrated on the geographic and political region of the European Union. It is acknowledged that, with the focus thereby defined, the paper inevitably cannot avoid classifying, categorising, and setting out aspects of hierarchies of relevance to sustainability—resilience—risk. These hierarchies may, in turn, have an effect on the differential discussion of the individual points of the triangle sustainability—resilience—risk. Thereby, we were aware of seemingly dismissing the access issues of farmers from non-EU countries, as if they were locked politically and economically out of the EU as a selected arena. As a moderating step, efforts were made to improve some of the qualifying views based on the rigorous analyses of the EU GAEC. We ventured to widen the scope of the reviews so as to include international experience with environmental compliance standards.

The boundary condition of the search of documents in the domain of EU studies was applied to several of the main institutions with an EU policy studies archive. This proved to be necessary, in view of the objective of comprehending the basic policy measures with which farmers struggle, or which denigrates them, as an administrative burden.

3. Policy Evolution and Background

3.1. GAEC Evolution

In general, the negative impacts of agricultural practice on sustainability were documented from around the 1980s [25,52–58]. The preceding measures to GAEC are to be seen in two parallel strands of institutionalised processes combining a voluntary and a compulsory approach [59]. A first attempt by the European Community to introduce a compulsory practice was made when a special emphasis on transforming “the existing optional eco-conditionality” into an obligatory status throughout the European Union was evoked by auditors, who sought to prioritise the environment within agricultural policy [60]. Table 1 summarises these measures.
Table 1. Social Science debate with regard to the place of resilience within the evolution of Good Agricultural and Environmental Conditions over time.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Sustainability Focus</th>
<th>Time</th>
<th>Social Science Debate in Regard to Resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Agricultural Practice</td>
<td></td>
<td></td>
<td>Balancing disparity, inequality, disequilibria.</td>
</tr>
<tr>
<td>Usual good farming practice</td>
<td>Social sustainability</td>
<td>Less-Favoured Area Measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economic sustainability</td>
<td>No. 75/268/EEC</td>
<td></td>
</tr>
<tr>
<td>Good agricultural practice</td>
<td>Ecosystem sustainability</td>
<td>Measures to reduce nitrate residues via</td>
<td>Restoring, preserving and enhancing agroecosystems.</td>
</tr>
<tr>
<td></td>
<td>Social sustainability</td>
<td>directive 91/676/EEC in respect of the</td>
<td></td>
</tr>
<tr>
<td>Usual good farming practice</td>
<td>Social sustainability</td>
<td>Rural development—Council regulation (EC)</td>
<td>Multi-layered, multi-functional meaning of rural areas, being assigned reasonable</td>
</tr>
<tr>
<td></td>
<td>Economic sustainability</td>
<td>No. 1257/99</td>
<td>symbolic value, linked to agriculture, and also, at times pacifying effect vis-a-vis</td>
</tr>
<tr>
<td></td>
<td>Environmental sustainability</td>
<td></td>
<td>the hectic pace of city residents.</td>
</tr>
<tr>
<td>10 conditions</td>
<td>Social sustainability</td>
<td>Rural development measures as regards</td>
<td>With the dismantling of the link of direct aid from product support, community</td>
</tr>
<tr>
<td></td>
<td>Economic sustainability</td>
<td>Regulation (EC) No. 1698/2005</td>
<td>strategic guidelines emphasise all 3 sustainability aspects to be built into all</td>
</tr>
<tr>
<td></td>
<td>Environmental sustainability</td>
<td></td>
<td>the institutions attached to rural development.</td>
</tr>
<tr>
<td>7 conditions</td>
<td>Social sustainability</td>
<td>44 rural development measures within</td>
<td>Beyond sustainability, farm resilience is emphasised.</td>
</tr>
<tr>
<td></td>
<td>Economic sustainability</td>
<td>Regulation (EU) No. 1305/2013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental sustainability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: \(^1\) For Article 19 information linked to Regulation 1257/99, see Table 2; \(^v\) voluntary; \(^m\) mandatory. Source: own compilation.

From 2003, when GAEC was introduced on paper (as opposed to 2005, when GAEC was implemented in practice) until now, only minimum changes have taken place; these are more or less linked to an administrative renumbering from an initial set of 10 compulsory standards to the present set of 7 standards, which still focus on the initial priorities. Groundwater protection and soil and biodiversity preservation are the key thematic issues of the GAEC. There are three standards linked to water protection, three to soil protection, and one with respect to landscape protection. The point of this support was to benefit sustainable land use function for people, plants, and the environment (ecosystem aspects of sustainability). It was also intended to benefit societal justification of the transfer of large monetary resources, which were of interest to European taxpayers, and to farmers (social sustainability). Lastly, but by no means the least importantly, GAEC should facilitate a level playing field for farmers competing with farm products, within the context of a high variability of economic, social, natural, and climatic conditions of the EU sociotechnical economic landscape (economic aspect of sustainability). Because of these three aspects of sustainability, farmers do not receive remuneration for complying with GAEC conditions. The sustainability aspects of GAEC were only gradually linked to the two other points of the sustainability triangle: risk and resilience.

### 3.2. Policy Background

At a time when GAEC was introduced, there was trepidation on the part of farmers. A vigorous discussion ensued about the time needed to read the administrative documents. For example, the not-so-new problem of whether the policies would contribute to resolving the economic difficulties of farming \(^61\) was highlighted anew. The reluctance was apparent despite more than 150 agri-environmental schemes funded by October 1998, over approximately 23 million ha, representing 17% of European farmland \(^60\).

To date, there remains insufficient evidence of the costs linked to GAEC introduction over time. Evidence exists only for a few Member States \(^44,62\). Currently, barriers remain with respect to extrapolating this national evidence to the EU level, probably because of a high variability of the economic, social, natural, and climatic conditions of the EU sociotechnical economic landscape. One of
the explanations rests in the complexity of the interface between Nature and Agriculture, that resists formal economic statistics, thereby inevitably implementing the Polanyi economic theory. Nevertheless, scientific literature is of great use in the understanding of the costs of certain measures included in GAEC (e.g., soil conservation measures; [63]).

The call for sustainability standards has been part of the reform policy agenda since the 1990s [59,64]. The fresh proposals by the European Commission for the Common Agricultural Policy after 2020 [65], surprisingly, go ahead in devolving responsibility for all environmental measures to Member States. Does it call for filling in the thus far insufficient evidence (as, for instance, was pleaded by [66]), or is it rather to say that scientific evidence is needed?

Indeed, the insufficient evidence of GAEC outcomes begs a question. Is it because of a lack of “acceptance” by farmers? One needs to be careful. The question of “acceptance” by farmers is not only not new, it is also less relevant to the adoption of GAEC. The prevailing debate on acceptance focuses on either the objective factors, or farmers’ subjective attitudes with regard to the adoption of multi-annual agri-environmental agreements under more advanced conditions [66–70]. To summarise, the prevailing debate is almost never about GAEC. One apparent advantage is that farmers have become accustomed to GAEC as the basic sustainability standards for a level playing field of the sociotechnical landscape. The more up-to-date documents rarely mention GAEC compliance as an excessive burden, but rather as a good thing which should be continued [45,46,48].

3.3. Sustainability Correlation with Resilience and Risks Linked to Rural Farmland

3.3.1. Sustainability of Agriculture

Sustainability of agriculture has often been discussed. Many also think that the word has never been clarified, i.e., it only signifies the instability of contemporaneity, conceptualised as a runaway world (Giddens [24]), or a risk society (Beck [25]), or liquid modernity [71]. Such instability exposes farmers to new challenges. In their everyday practice, farmers face the complexity of reconciling the demand for environmental goods, food security, and the viability of rural societies [40,41] with unpredictable prices [32]. The complexity of farming practice, as brought about by the contemporary world, must be encapsulated in all-embracing theoretical concepts in order to return the multilevel, flexible word with a clearly-denoted definition. In a nutshell, both for Giddens and Beck, sustainability promises to be one such harnessing concept.

From its introduction, the meaning of “sustainability” was based on numerous subsequent efforts related to farming. Sustainability thereby entailed “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [72]. Sustainability further embraced the strategies of addressing several societal problems with respect to agroecosystem protection, food safety, and maintaining agricultural productivity [43,45]. A separate strand of the sustainability definition noted attitudinal changes in farmers, a critical topic if we were to understand whether there were likely to be any long-term positive changes as a result of rural projects [73,74]. Recent discussions have shifted the attention towards the sustainability of rural projects related to local food products, agroecosystems, and farm-based tourism [4,39,75]. Finally, a model of intensive agriculture, in which farmers strive to maintain, restore, and enhance yields, without much deleterious ecosystem impact, is the current definition of sustainability. These strands of the elaboration of sustainability have variously been coined over time as sustainable development [72,76], sustainable agriculture or sustainable farming systems [43,77], and sustainable rural development [73]. Recent coinages include sustainable agri-food production systems [4], sustainable intensification [15,77,78], and resilient sustainability [75].

Examining the conceptualisation of sustainability, the definitions were always developed through a particular focus (farming system, rural development, etc.). This text partly continues such an approach and partly contradicts it. It does not want to develop a new focus on sustainability; this means, it takes a particular focus (Good Agricultural and Environmental Conditions), but develops it into a
new paradigm of sustainability. Contrary to existing paradigms, it investigates how existing paradigms are represented within such a focus. Therefore, we continue to demonstrate the necessity of a reflexive conceptualisation, one that shifts from a particular focus to general concepts.

3.3.2. Resilience

In terms of “resilience”, neither Giddens [24] nor Beck [25] uses the word. However Giddens does emphasise the importance of preparing “adaptive reactions” (pragmatic adoption, permanent optimism, cynical pessimism or involvement in social action). In contrast to Giddens, Beck only indirectly evokes “resilience”. He emphasises the necessity of a theory of learning that comprises “steering wheel and brakes”, in order to prevent unforeseen side-effects.

Resilience of farms is dealt with by [2,17,20,31,79–81], with the objective of negotiating the key aspects of effective farm economics. It is “the capacity of a system to absorb disturbance and re-organize while undergoing change so as to still retain essentially the same function, structure, identity and feedbacks” [19] (p. 259). Resilience is increasingly the focus of discussion of agricultural scientists in relation to complex agricultural systems, social scientists with regard to the functioning of the socio-technical landscape, and political scientists with respect to complex management principles. Resilience typically evokes evolutionary narratives, starting from unexpected events, changes with transient effects, shocks, price volatility, uncertain market access, and the complexity of sectoral policies.

The history of the scientific focus on resilience dates back to the 1970s [21]. The relevance of resilience as the focus of farm economics can be testified to by the increase in the number of dedicated articles in the Web of Science. However, in terms of GAEC definition, resilience has only recently been explicitly emphasised (Table 1). This is intrinsic to the fact that it was a lengthy process to place the emphasis on resilience in EU strategic documents. Until the mid-1990s, resilience was occasionally noted with reference to individual sectoral strategies. Only by the Cork Declaration of 1996 was the potential of the focus on resilience in integrative solutions for rural viability highlighted. Much greater focus on the significance of resilience with regard to farms has become the staple of EU-level strategies in the 21st century. Probably, the antecedent priority of sustainable use of natural resources was one of the critical factors in the delayed utilisation of the focus on farm resilience in strategies at the EU level.

Individual Member States may differ as to the weight given to some of the factors of resilience. For example, Austrian family farms tend to focus on resilience as the ability to face challenges, to adapt, to learn and transform practice as necessary. Farmers have been adapting to unexpected weather events, drought, hail, and winter extremes since time immemorial [17]. They see economic deregulation as one of the risks that has to be factored into land management decisions of increasing complexity. The Netherlands [82], in contrast, shows, in agreement with [17], that resilience may mean a reduced willingness to accept risk when family farms struggle with a loss of income. Yet the resilience principle for the Netherlands endorses the fact of price volatility in a deregulated economy. Therefore, farmers have to factor in the volatility of yields without distinct dependency on the volatility of prices. This is because the focus on farm resilience cannot apparently change the fact of prices being “more correlated among farms than yields” [82] (p. 15).

3.3.3. Risk

Risk is a component of agricultural systems which has long been encapsulated within the systems of the growing of plants. Giddens [24] and Beck [25] emphasise the increased visibility of risk in modern society. For Giddens, risk is antonymic to trust. By his account, human-based actions involve risk, while hazard is a social characteristic of the majority of contingent events. According to Beck [25], the “risk society” refers to the risk of ecosystems, such as water pollution or climate change, and the risk of farm economics, to the poverty of marginal farmland farmers. With regard to farm practice, risk is most often coupled with the management of biosecurity problems. It was shown by [83] (p. 864) that biosecurity problems typically occur once, i.e., they are “distinctive” and “time-bound events”. GAEC is indeed a key instrument of farm and rural development policies, the aim of which is to juggle
the multiple tasks of food security, environmental protection, and biosecurity. However, GAEC is designed to address only the risks of ecosystems. It has a considerably more limited scope than may be necessary for addressing all the broad issues of risk, according to [83].

Because of the tendency to prompt a regulatory reaction, biosecurity problems are targeted by a separate area of action from GAEC, via actor networks [27–29]. Networks have the advantage of being able to moderate the impression of entrepreneurs that the issues are both urgent and immense [83]. Comprehension of networks dealing with biosecurity problems requires practical involvement with key farming practices of a material and social nature [31].

Networks bring together scientists, risk managers, and the group interests of society at large, because the basis of audit, regulation and control with regard to agricultural risk problems is necessarily political [26]. Networks highlight the difficulty of escape solutions via a reference to objectivity [26]. The conventional approach to policy evolution via GAEC was based on quantitative risk analysis, including factors such as historical events, group networks, actor-network interests, emerging science, new technologies, and others. Fairly modest goals are ascribed to GAEC in ensuring water and soil quality, e.g., via the maintenance of buffer strips alongside water courses. This is significant in a synergy with farm practices within nitrate vulnerable zones (Table 1). Networks may moderate the controversial aspects of audit, regulation and control. Hence the risk component cannot be fully excluded from the debate of sustainability—resilience. However, to appease farmers and society at large, it is a topic of prevailing concern of actor networks or legislation, which is outside the scope of the present review.

3.3.4. The Role of Standards in Sustainability Correlation with Resilience and Risks

Good Agricultural and Environmental Conditions are standards set for sustainable agriculture, in tandem with sustainable rural development supports, at farm level. Therefore, they embrace more of the focused conceptualisations of sustainability. The GAEC field is an interesting test case of a task expansion (Table 2). It tests how the early sustainability focus was expanded to include also resilience and risk theories. What is novel in our discussion of such a task expansion? We propose that a meaningful discussion is plausible only from a problem-solving viewpoint. This means that the problem we seek to resolve concerns the interactions around GAEC standards, involving relevant actors at EU, national and local levels, and the farmer at farm level, who negotiate the sustainability—resilience—risk requirements. Thus, the problem is whether the interactions are capable of restoring, preserving and enhancing agroecosystems, while ensuring the viability of rural areas including farms.

Table 2. Evolution of the triangular concept of sustainability—resilience—risk.

<table>
<thead>
<tr>
<th>Event</th>
<th>Key Effort</th>
<th>Note Re. “Risk” and “Resilience”</th>
<th>Rural Policy Response Vis-A-Vis GAEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandtland Report (1987)</td>
<td>Defines “sustainability”</td>
<td>Resilience—to improve opportunities of the poor Risk—linked tacitly to technology and social organisation</td>
<td>Provisions introduced under Article 19 Member States enabled to implement land-based measures to protect farmland habitats and landscapes from the risk of farm intensification</td>
</tr>
<tr>
<td>Rio Earth Summit (1992)</td>
<td>The term “sustainability” acquires valence in Rio Declaration, later leading to the 2000 and 2005 Millennium Ecosystem Assessment</td>
<td>unknown</td>
<td>Agriculture practice standards to reduce nitrate residues in water and soil</td>
</tr>
<tr>
<td>Maastricht Treaty (1992)</td>
<td>A reference to “sustainable growth” included</td>
<td>Resilience—industrial policy, culture, clean transport, youth Risks—coordination, monitoring, sustainable level of employment</td>
<td>Environmental measures &amp; maximum stocking densities</td>
</tr>
<tr>
<td>Cork Declaration (1996)</td>
<td>A reference to capacity building in respect of sustainability, i.e., sustainable rural development must be put at the top of the agenda of the European Union, and become the fundamental principle which underpins all rural policy in the immediate future and after enlargement.</td>
<td>Resilience—rural viability, incl reference to promotion of culture, tourism and recreation. Risk—linkages to global competitiveness</td>
<td>Agenda 2000 in preparation, with requirements for all Member States to apply appropriate environmental measures as a condition of basic supports under the European Agricultural Guidance and Guarantee Fund (as per Council Regulation 1257/99) in order to incentivise a certain degree of environmental protection, extending the scope of conditionality beyond the arable, beef and sheep sectors for the first time.</td>
</tr>
</tbody>
</table>
A debate with regard to the institutionalisation of GAEC standards as a key sustainability approach at farm level was most lively during 1995–2004. It took place in the aftermath of the turbulent 20th century. This timeframe coincides with the proposed sustainability concept by both Giddens [24] and Beck [25]. Since then, policy attention has shifted more to a plethora of opportunities in connection with sustainability. These are the opportunities to build agricultural systems with greater resilience to risks [78], to ensure resilience to climate variations, socio-economic viability of agricultural and rural areas, and coherence with ecosystem protection objectives [22,23], and to facilitate farmers’ access to risk monitoring, insurance schemes, or mutual funds in order to cope with economic consequences of variability in crop yields [82]. Such a shift in policy echoes the evolution of sociology’s take on “resilience”. Thereby, emphasis was placed on the capacity to prepare for change, over and above the mere understanding of change, and the importance of abilities to withstand shocks [21,79].

4. GAEC Implementation

Evidence of an Uptake of Sustainability Principles by EU-Level Policy Measures

The initial attempts to institutionalise good farming practices in the EU went side by side with the worldwide sustainability agenda prompted by the Brundtland Report. The report famously stated that a working definition of sustainability was necessary. To this end, it clarified the term as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [72] (p. 43). Whilst sustainability in the Brundtland coinage was not ostensibly linked to “resilience”, there was a focus on the needs of an institutional response to improve opportunities for the world’s poor. The initial report did not propose any explicit “risk” considerations. However, currently resilience and risk have been much more prominently inscribed within the post-2015 formulation of sustainable development goals. Such resilience and risk concerns echo the highlight on sustainability by, for example, Beck [24], Giddens [25,30], and indirectly by [85].

When the European Community was established in 1957, neither sustainability nor environmental protection were perceived as a worthwhile policy agenda. Over time, they acquired the key valence of an EU legal identity. In relation to rural farmland, good farming practice evolved in parallel with the high-level policy agenda of the EU, from an early link to the environmental measures and “maximum stocking densities”, through environmental protection requirements and “usual good farming practice”, to GAEC. Table 2 provides an overview. It traces the evolution of the reference-level measures for farm sustainability, whilst setting out the linkages to resilience and risk.
In each shift, good farming practice was a framework to be filled in with specific regionally relevant rules, norms or prescriptions reflecting the sociocultural and pedoclimatic complexity of natural conditions. Such a diversified baseline was to form the basis for less-favoured area support, and secondly, for a more advanced agri-environmental measure or organic farming.

5. Discussion

5.1. Focal Points of the Paper

In this paper, the ways in which GAEC principles evolved is examined, in addition to the reasons for its implementation. The focus is on how the balance shifts within the triangle of sustainability—resilience—risk. The most significant task of this paper is to analyse how the literature demonstrates the shifts in balance when social scientists, policy makers, and individual authors negotiate the ways of encouraging environmentally-friendly farming methods. Such a shift is indispensable in order to nudge resources away from unduly intensive practices, toward GAEC. The shift should embrace a consistent thread of evidence-building, learning, and the transformation of farm practice on the basis of farmer-led decisions, with respect to the hopefully understood reasons of environmentally-friendly practices. This is important, especially when the proportion of EU funds to be distributed between market support and rural development is scheduled to be pinned down for a period of another 7 to 10 years, with 2020 as an approximate milestone. The review here with retraces the formalisation of sustainability commitments to farms, as lauded in the 1990s.

5.2. Main Lines of Argument

Three main lines of argument are discussed in this enquiry. Firstly, GAEC evolution is elaborated upon in connection with the strategies of the European Union (EU), as well as with international compliance standards. Secondly, we show how the sustainability antecedents combine with the long-term focus on resilience and the emerging agendas of risks and biosecurity within the context of rural farmland. Thirdly, we offer a synopsis of the GAEC sustainability—resilience—risk within the sociology debate.

Attention to “resilience” [20,21,79,81], and to “risk” (e.g., [26–31] has progressively taken the floor of the sociology debate with regard to both agriculture and rural farmland. Such a shift has seemingly displaced earlier sustainability approaches. However, former studies of how the early GAEC contributed to sustainable farm management remain fairly robust [44]. There is one caveat, namely, that it is not easy to outline the entire assemblage of GAEC outcomes, i.e., to disentangle what has been achieved in terms of sustainability across the 28 Member States. We also suggest that GAEC has not fully contributed to the outcomes for sustainability.

To negotiate the triangle of sustainability—resilience—risk in relation to good farming practices, it is not entirely feasible to provide a fully-fledged synopsis of the outcomes of the seven standards. One of the factors is that there is practically no systematic monitoring of indicators for each individual objective of individual standards, despite the vast financial resources supplied to European Union farms, with the GAEC as a condition of the receipt of these direct payments. Notwithstanding the difficulty of the lack of monitoring indicators at farm level, there is another layer of challenge to the attempt at a fully-fledged synopsis. This challenge concerns the triple agenda of sustainability—resilience—risk. We suggest that sustainability is an antecedent priority of measures at farm level within the EU. Nonetheless, an intensive investigation has been carried out herewith to trace the nudging of farm policy agendas, with an increasing focus on resilience and risk. A quantitative, multi-criteria assessment to support a fully-fledged synopsis would be difficult to make.

To recap the meaning and significance of the sustainability focus of GAEC, one can note its consistency with a study by [73], engaged on a solid scientific basis on all three aspects of sustainability—resilience—risk in relation to good farming practices. Based on fieldwork interviews, it evaluated several methods that were helpful to farmers to absorb information with respect of GAEC.
Such experimental data complement the present review. One of the key findings was that “interviewees would scan their mail and would pay most attention to information relating to regulation and financial incentives” [73] (p. 35). In particular, the method of presenting how GAEC is linked to the farm, was found to be highly relevant:

Good practice for written material can be summed up in this quote ‘It was colour . . . it was a font type and size that could be read in this light (fairly dim lighting) as in the farm kitchen. It had to be topical, snappy and to be read in 20 minutes over breakfast’. Other factors include simple, clear and useful information—most interviewees enjoyed increasing their knowledge—provided that it was of practical use to their particular enterprise. The topics of most interest were likely to include innovative approaches, or ways of dealing with new legislation or other requirements. Some farmers preferred online information as it was ‘paperless’, although others were not Internet users. Nevertheless, many farmers indicated disquiet with the sheer volume of paper in their offices. [73] (p. 35)

In this paper, farmers’ subjective opinions on the formalisation of compliance through GAEC were not extensively examined. Works by [44,67], and studies of farmer compliance internationally [48,51], provide field-research-based data. The reviewed experimental study highlighted a number of social sustainability aspects linked to GAEC. There were farmers who requested more technical and scientific advice, as they felt patronised by being given information they already knew. Still, it was hinted at that “some farmers” might need this “basic advice” [73] (p. 41). Some farmers stated that the study contained advice using difficult metric measurements. The sustainability of GAEC was not viewed by Dwyer et al. [73] as involving too many risks. It was only the more advanced new practices that were seen as being risky to adopt. Risk-related responses were allegedly negotiated in tight-knit local farming communities. Resilience was negotiated in terms of limitations to the shift in farm practices, whereby farm characteristics, finance, markets, human capital, social capital, and time were involved [73] (p. 38). It was a complex area, encompassing individual values and self-identity, as well as perceptions of the future of farming and intelligent strategies, such as the methods’ evaluation by different farmers to determine the merits and demerits of change in farm practice [73] (p. 42). This finding places more emphasis on such issues, although several pieces of research made similar observations [44,48,59].

One of the key studies to understand the sustainability—risk—resilience triangle was based on cereal production farms [67]. It indirectly challenges the predominant focus of EU farming practice measures on sustainability. It can be deduced that a more visible focus is needed on resilience and risk. The utility of the results offered by [67] emphasises resilience and risk, whilst counterbalancing the prevailing notion of risk management at farm level as the task of livestock systems predominantly [27–29]. This is of note for GAEC, as the set standards comprise basic land management standards, rather than farm management of farm technique efficiency principles. The study of cereal farms proved that producers have anchored their notion of a good farmer on four points [67]: (i) physical appearance of the plant or reared animals, (ii) productivity or another coefficient linked to yield or effectiveness, (iii) conservation practice focused on hedges and woody vegetation of a farm, the comparative criterion which rests in the evaluation of how farmers in specific geographic reference areas adhere to the local, i.e., informal standards of agriculture, and (iv) “farm” identity, which comprises the physical characteristics of the farm and the kinship aspects of the farm and its history, hence relating indirectly to “risk” and “resilience”. Somewhat similar evidence was produced internationally, with a focus on the best management practices in relation to soil and water [86]. In the present review, we have not found any information to the contrary. Several works go in this direction [44,59], whilst important studies exist which ignore the topic [33].
5.3. Future Research Directions

In a nutshell, both in terms of “risk” and “resilience”, the summary by [87] (p. 415) can be supported: “Agronomists in this encounter, although often informed about best management practices, were reluctant to approve of/recommend the practices, as they believe they will risk their credibility”. We suggest that an update on the sustainability balance sheets of GAEC still merit research efforts. Potential research avenues should also be the evaluation of GAEC, from the viewpoint of the outcomes for farm resilience and risk management.

New evidence for the sustainability aspect of the triangle of sustainability—risk—resilience has been provided by new efforts to understand the factors which are of relevance to the farmer. Therefore, we are in accordance with a study by [66], making a plea for synoptical evidence based on meta-reviews. Future research directions comprise meta-reviews presented in a crisp and understandable fashion. The meta-reviews are likely to be complemented by targeted, on-farm research projects to examine the extent of the costs of GAEC compliance at farm level. A feasible complementary project is likely to be an interrogation of the effectiveness of a specific standard to control erosion. Moreover, from the viewpoint of our results, the sociocultural factors present in Iowa in establishing the identity of a “good farmer” [51] outline a prospective avenue for research.

6. Conclusions

In this paper, we examined the ways in which the balance shifts within the triangle of sustainability—resilience—risk when social scientists, policy makers, and individual authors negotiate the ways of encouraging environmentally-friendly farming methods. Such a shift is indispensable if we are to nudge resources away from unduly intensive practices toward GAEC. The shift would have to embrace consistent evidence building. This is important, especially when the proportion of EU funds to be distributed between market support and rural development is scheduled to be pinned down for a period of another 7 to 10 years in or around 2020.

The review herewith has retraced the formalisation of sustainability commitments to farms, lauded in the 1990s, in the aftermath of the turbulent 20th century. It was a long-term task to implement either good agricultural practice at farm level, or to partially formalise the monitoring policy measures within the institutional sphere. It was also a long-term task for society to learn that the beneficial effects for agroecosystems often do not take place on a year-to-year basis, even if those farmers who have adopted good land stewardship do their best to fulfill the requirements. In socioeconomic terms, one may see it as an instantiation of progress from the institutional inertia, which rarely enables a very rapid transition to a more desirable institutional state. It also signifies a shift from an abstract notion of sustainability to a more substantive understanding of sustainable agriculture, in the sense in which [19] understood a socioeconomic change, Giddens [37] emphasised a less-centrist rationality, and Beck [38] introduced risks within the viewpoint of an element close-to-the-centre of any sustainable society.

In conclusion, we found that, first of all, the evolution of sustainability measures at farm level is indirectly associated with the dynamics at regional, national and EU level. As a result, the adverse effects have been declining over time. Nevertheless, the precise cause-effect link to GAEC still merits commensurate evaluation. Secondly, if a liberalisation scenario were to be adopted, which does not appear plausible after the publication of the 2017 EU Communication on Food and Farming, the Good Agricultural and Environmental Conditions would no longer apply, due to the cessation of direct payments in the absence of the dedicated payment tool.

Thereby this review finally notes that, with respect to GAEC, there is a “state capacity building” historical sequence. It seems highly likely to evolve over time into something different, insofar as its success creates new economic actors seeking more complex and open economic and political institutions than a state-centric model of development can provide.
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