



Research article

Why is agricultural policy not more environmentally ambitious? Comparing failed attempts in Switzerland

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ABSTRACT

Switzerland is a country that has ambitious agri-environmental objectives, but its targets are continuously missed. The paper at hand examines this contradiction by describing and analysing three recent attempts to transform agricultural policies and change the unfortunate situation. The three cases were compared in a qualitative multimethod research design and along dimensions that are potentially relevant for explaining reform failures. While the attempts depicted involved distinctive governance pathways, they all failed to meet their objectives because of the large disadvantages their realisation would have generated. These included, above all, a reduction of the national self-sufficiency rate. It is concluded that the strategy of providing incentives for mere extensification has reached a dead end. New strategies to tackle food consumption patterns appear to be more promising.

1. Introduction

Farming is held responsible for a vast amount of environmental problems. These include unsustainably high greenhouse gas and other emissions (Blandford and Hassapoyanes, 2018) and the continuing decline of biodiversity (Pilling et al., 2020). Although a major number of agri-environmental schemes (AES) in Europe have made farming look more environmental, they have not solved any of these environmental problems. For example, the limited number of existing monitoring programmes have shown that AES often do not deliver what they promised (Calvi et al., 2018; MacDonald et al., 2019), and so agricultural economists continue to call for a further greening of the Common Agricultural Policy (Dobbs et al., 2021).

A country that set clear targets for the environmental performance of the farming sector at a relatively early stage is Switzerland (BAFU, 2008). Switzerland has seen the last major reform of its agriculture policy in 2014. This reform's core element was the adaptation of direct payments so that in principle, societal objectives would be assigned to each kind of payment (Mann and Lanz, 2013). Swiss agricultural policy has thus often been attributed a pioneering role in pursuing multifunctional agriculture (Metz et al., 2021; Pe'er et al., 2019).

There is certainly no lack of environmental awareness in Switzerland (OECD, 2017). Nevertheless, the country has so far failed to even come close to its environmental objectives related to farming (Wyss, 2020; Meier et al., 2021). Switzerland's data availability in terms of environmental performance is good (Repar et al., 2018), but it has recently encountered several failed attempts to create an

agricultural policy with lower chemical inputs that would improve its environmental performance.

There is no shortage of normative papers suggesting that agricultural policy should devote more attention to the environment (DeBoe et al., 2020; Goral and Pilyavsky, 2019; Karttunen et al., 2021) and what governance models would be needed for this (Ehlers et al., 2021; Montanarella, 2015). There are also multiple descriptions of which policy instruments can be effective in doing so (DeBoe, 2020; Lankoski and Thiem, 2020). However, to our knowledge, no attempts have yet been made to describe the continued failure to transform agricultural policies in such a way that they would reach environmental objectives.

The paper addresses this research gap by incorporating three different, failed initiatives to answer the question: What are common reasons for the failure of attempts to transform agricultural policy in Switzerland? After outlining the methodological approach in Section 2, Section 3 is devoted to describing and analysing the three attempts and reasons for their failure. The three case studies of failed agricultural policy reforms provide empirical support for our attempt to contribute to explaining why we are unable to make farming more environmentally friendly through mere extensification, as shown in Section 4. Section 5 concludes.

2. Materials and methods

Given our interest in identifying common reasons for failure in the three reform projects, we opted for a comparative research design

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using multiple qualitative methods for data collection and analysis. The cases compared are three of Switzerland's failed attempts at implementing environmental measures, namely the 3V project (case study 1), the IDZ project (case study 2) and the *Agrarpolitik ab 2022* (AP 22+) (case study 3). All three initiatives had the objective of making Swiss agricultural policies more environmentally friendly, but their governance approaches were extremely different, as will be shown in Section 3. The paper draws on empirical material mainly gathered through accompanying research for the three analysed reform projects, as well as through long-term research on Swiss agricultural policy.

2.1. Study context

Switzerland is a convenient case study to engage in a deeper analysis of the continuing contradiction between environmental measures and ongoing environmental problems, as laid out in Section 1. The Swiss government has invested much effort to promote multifunctional, sustainable farming (Mann, 2018). This resulted in one of the highest levels of agricultural subsidies in Europe, amounting to 2.9 billion Swiss francs in 2021 while the sectors' gross value added is estimated at 4.1 billion Swiss francs. The 48,864 Swiss farms supply 57% of all energy consumed from food as expressed in the national self-sufficiency rate. With an average size of 21 ha farmland, the mainly family farms are small in international comparison (Federal Office for Agriculture, 2021; Federal Statistical Office, 2021a,b,c). The sector's ecological footprint, on the contrary, is not small. A recent study by Schläpfer (2020) has estimated the total external costs of Swiss farming at 3.7 billion Swiss francs (3494 Swiss francs per hectare).¹ Reducing the high ecological footprint has been the aim of several recent initiatives that attempted to transform agricultural policies towards this end.

2.2. Data collection

Data on the three initiatives examined in this study were collected between 2019 and 2022 using several qualitative and ethnographic techniques. They include participant observation, document analysis and five semi-structured interviews (see Table 1). The interviews were conducted as part of the accompanying research for case study 1. We interviewed three farmers, one farm adviser and the project management team, consisting of three persons (see Appendix A.1 for the sample description and Appendix A.2 for the interview topics).

2.3. Data analysis

The analysis proceeded in two steps. In the first step, the data for each project were analysed using document analysis (Bowen, 2009) and content analysis (Krippendorff, 2004) on the interview transcripts and on the field notes from participant observation. We coded the data along the three overarching categories 'context and design', 'experiences' and 'outcomes', which we used to arrange the materials in Section 3.

In a second step, the three cases were compared along dimensions that are potentially relevant for explaining reform failures. As potentially relevant dimensions we identified the stage of the policy process, the governance approach, the overall goal, the objectives, the project context, key actors, and any opposition or target conflict. The approach comes close to the description of comparative analysis by Hancke (2009), where 'everything between the [...] cases is different, except for the explanation and the outcome. Since all other potentially relevant dimensions vary, but [the] outcomes are the same, only the similarities between cases on the explanation can cause the agreement between the cases in terms of outcomes' (pp.74–75).

¹ Estimates of external costs are derived for emissions of greenhouse gases, ammonia, nitrate and pesticides, soil erosion, habitat deficits, and animal suffering. The calculations are based on the agri-environment measures' average avoidance costs (for further details, see Schläpfer, 2020).

3. Case descriptions and results

This section subsequently presents the three cases and the results of their analysis in detail. We first describe the context and design of each project. We then explore the main stakeholders' experiences regarding the implementation of the reform project in the sub-sections entitled 'experiences'. Finally, we conclude each project's section with presenting the outcomes of the project. The results from the cases are compared and discussed in Section 4.

3.1. Case study 1: Bottom-up

3.1.1. Context and design

The first case is the 3V project, which was a pilot project of the Swiss Federal Office for the Environment, implemented within the framework of the Biodiversity Action Plan. It was launched in 2019 and has run for three years. Initially proposed by farmers from the Thurgau Farmers' Association, the project was designed to interactively develop and test a bottom-up approach to agricultural policy implementation on 30 to 45 farms.

Experimentation characterised the pilot project, which is also regarded as a distinct 'approach to governing' (Huitema et al., 2018, p.144). In relation to the policy process, the project can be situated before the stage of policy conceptualisation. As a pilot project, its expected function was to 'enable evidence gathering to inform policy or validate assumptions' (Nair, 2021, p.5). In addition, 'piloting does implement something, albeit limited in spatial and temporal scope' (Nair, 2021, p.5). Therefore, by design, the project involved both data gathering and small-scale implementation of a project.

The mode of governance employed by the 3V project was a combination of bottom-up and interactive governance (using the classification of governance modes by Lange et al. (2019)). The project was initiated by farmers, who then decided to include public authorities to leverage the project. In this way, the structures became more formalised. The lead was handed over to a project management team. Intending to assign equal roles to all actors involved, the project guidance stated that the farmers, advisers, researchers and authorities 'should meet at eye level and contribute all their expert knowledge' (Projekt 3V, 2021). As a result, the project's policy–science–practice interface was transdisciplinary, integrating (place-specific) expert and practitioner knowledge.

Core components of the 3V approach were the environmental performance targets of the agricultural sector (*Umweltziele Landwirtschaft*, BAFU, 2008), which had been formulated at a sectoral level but lacked any farm-level indicators. Thus, the project aimed to collaboratively develop such indicators with farmers, cantonal farm advisers, researchers and public authorities, as well as to generate a tool that would allow for two things. First, the tool had to enable farm managers to identify the farm-specific optimisation potential in each of the 13 environmental target areas while considering presumed synergies with improving the economic (income) and social (quality of life) farm situation. According to the project's objectives, it needed to provide 'scientific proof of the extent to which 3V farms can provide better ecological services and achieve good economic results while maintaining or improving the quality of life' (Projekt 3V, 2021). Second, this tool had to demonstrate the feasibility and acceptability of a radical change in the way the farms' environmental performance and direct payments were assessed. The approach that the project proposed for this was based on its eponymous three 'Vs', which stand for the German words *Vertrauen* (trust), *Verantwortung* (responsibility) and *Vereinfachung* (simplification). According to the project's vision of a better agricultural policy, trust should replace the inflated control system by giving responsibility back to farmers and strengthening their awareness of the responsibility they bear for the environment. In this way, the control system could be drastically simplified, reducing farmers' administrative burden (Projekt 3V, 2021). Working towards simplification appears to have been the main motivation for farmers to participate in the pilot.

Table 1
Overview of data collection, data sources and data analysis (first step).

Data collection	Data sources	Total data sources	Data analysis
Participant observation	Project meetings (case study 1 and 2) Project workshops (case study 1 and 2) On-farm demonstration events (case study 1)	$N = 26$	Content analysis (field notes)
Semi-structured interviews	Farmers ($n = 3$, case study 1) Farm adviser ($n = 1$, case study 1) Project management team ($n = 1$, case study 1)	$N = 5$	Content analysis (interview transcripts)
Document search	Minutes from project meetings and workshops Project reports Media reports Websites Newsletters Emails Additional documents	$N \approx 60$	Document analysis

3.1.2. Experiences

In addition to the 15 initial farms from the Canton of Thurgau, 16 more farms were recruited via cantonal extension officers (the cantons of Glarus and Zurich; in the latter case, only one farm ultimately participated). When asked what differentiates the participating farms from other farms, one farm manager from Thurgau explained that as board members of the farmers' association, they are not different but simply more open.

There were three central instruments to facilitate the implementation at the farm level in the 3V project; these were as follows: (1) free advice for the whole farm, (2) compensation of additional expenditures on the farms according to standard market rates, and (3) authorised exemptions for project-specific requirements that differed from those of the current federal and cantonal programmes (Projekt 3V, 2021). The project was supposed to rest on the inputs given by the farmers. Therefore, the project leaders initially provided relatively vague information in terms of the specific ways in which (in particular, the last of) these instruments would be applied. This led to ongoing discussions and confusion among the participating advisers, farmers and researchers, which became evident in project workshops. Further, the insecurity about what would happen to on-farm changes made under the project's umbrella once the pilot ended prevented advisers and farmers alike from focusing on concrete steps. A rather extreme but illustrative example brought up by one farmer was agroforestry; this farmer feared that areas he would forest today could become protected in the near future, which would cancel out his financial investments.

For the involved stakeholders, the project sometimes came across as what McFadgen and Huitema (2017) called an 'advocacy experiment'. Such an experiment is one that seeks to generate evidence to support predetermined policy positions. The following statement from a participating farmer provides support for this observation:

When we started... uhh, the goals were already defined, so not to use pesticides anymore. [...] But you don't have to do a pilot for that if you say, 'in the end, this has to be gone'. [With a] pilot, in my understanding, we have to look at what happens and then conclude... And if we don't do that, then we don't have to do a pilot. (F1C1)

Nair (2021) described piloting as 'an opportunity [for bureaucrats] to initiate policy change, demonstrate implementation of specific policy strategies, and gain accolades' (p. 8). The asymmetry between the actors of the project was pointed out by farmer F3C1, who spoke about how the project had been 'bureaucratized' so that farmers would benefit the least from it. Farmers 1 and 3 also thought that the project served as an arena where the bureaucrats that led the project would demonstrate their power towards a rival federal office.

The project's three pillars were *trust*, *responsibility* and *simplification*. While the aspect of simplification was the one that pulled most farmers into the pilot project, the farmers came to doubt the realisation of this,

even on a conceptual basis. One reason for this is that for organic producers, many inspections are carried out either way by the label organisations and these would not be affected by simplifying changes made through the project. The trust among stakeholders reached its limit—at least for some of the farmers—when they were required to share sensitive data, such as full accounting records.

3.1.3. Outcomes

While the project is ongoing, it seems unlikely that the pilot will be replicated, expanded or integrated into existing policy, or alternatively, whether it will transform this policy. The project's vision for diffusion appears unclear, as providing comprehensive farm assessment and extension services like the pilot attempted to do does not seem feasible for upscaling.

The first expectation of a pilot—to gather evidence—has been partially met. Farm-level indicators for the sectoral environmental performance targets were specified and used for the (ongoing) completion of a 'light' version of the 3V tool. This tool has been used on some of the farms to (again, partially) assess the status quo and build scenarios for the improvement of environmental performance. It is currently envisaged that the tool could be made available to public extension and farmer education and training centres. However, little evidence could be produced that would support 3V's central assumption that ecological, economic and social improvements could be realised in a synergistic way.

Regarding the second expectation of a pilot—to implement something—one success has been reported so far: some of the farms started introducing biodiversity measures, which the advisers and researchers suggested based on the identified farm-specific potential in this area. While not negligible, this appears to be a minor outcome compared with the initial project's ambition, which was to conclude a target agreement with each farmer for holistic sustainability optimisation of farms. Given that 3V cost several million Swiss Francs, an overall evaluation of 3V has to come to a critical result.

3.2. Case study 2: Targeted measures

3.2.1. Context and design

Swiss agricultural researchers have been active in developing and applying sustainability assessment tools for farms (Grenz et al., 2009; Schader et al., 2016). The indicators used in these tools are strongly linked to farms' environmental performance, often attempting to measure environmental outputs directly. Some of the key actors in sustainability assessment in the farming sector were able to convince Switzerland's federal administration to explore the potential of these tools for agricultural policy. The resulting feasibility study by Schader et al. (2018) concluded that linking a strong consultative process on farms with a point-based reward system could allow sustainability assessment tools to be used to support a more performance-related agricultural policy.

Researchers' conclusions encouraged the Swiss Federal Office for Agriculture (FOAG) to commission a follow-up study in which a system was to be designed that would be based on sustainability assessment tools to make Swiss farming more environmentally efficient. A consortium was formed that focused on the creation of an indicator-based system, intending to use the indicators from sustainability assessment tools with the best feasibility for agricultural policy. The consortium was finally given two years to draw up such a system to be potentially followed by a pilot phase in which the system could be tested.

3.2.2. Experiences

In their final report for the project called IDZ, Gilgen et al. (2022) delineated three different direct payment systems that differed in their degree of complexity. A surprising point that united them is that none of the three systems used many indicators from sustainability assessment tools. During the design process, it became increasingly clear that the indicators in the common sustainability assessment frameworks had a strong need to be adapted to make them suitable for a direct payment system. Neither very complex indicators nor indicators that rested either on claims by the farmer or subjective evaluations by the person in charge could be transferred to agricultural policy. These reservations also excluded most of the actual performance-oriented measures, prioritising measures at the driver level. The resulting system included policy instruments on emissions, biodiversity, erosion and soil quality and left untouched current policy instruments in the realms of animal welfare and landscape, which are often outside of sustainability assessment tools. For the environmental issues included, the chosen instruments focused on penalising animal density and nitrogen fertiliser; in particular, the instruments in the more detailed systems also sought to provide incentives for technical measures like phase-feeding for pigs or intertillage on the arable land.

An agent-based simulation model (Möhring et al., 2016) was used to explore the likely impacts of the simplest of the three concepts on the environment, farm incomes and the production portfolio of Swiss agriculture. The model predicted that the effects would be small: Reductions of animal numbers between 3 and 5 per cent and arable production between 2 and 3 per cent would result in a reduction by 5 to 6 per cent of the degree of self-sufficiency and slightly lower surpluses of nitrogen (−2 to −4 per cent). Income was expected to rise, but this would be solely due to direct payments, which the model estimated would become higher than it was for the current system.

3.2.3. Outcomes

After the final report on the three indicator-based scenarios had been submitted alongside a proposal to enter into a pilot phase of the policy concept, FOAG's board decided to terminate the project. The official reason for this was that the project had not advanced in using output-related agri-environmental indicators. However, background talks indicated that the model results eroded all enthusiasm for the project. Whereas the Swiss population voted to maintain food security by emphasising national production in 2017, representing what Blattner and Ammann (2021) characterise as a largely symbolic election, the new policy would result in a notable decrease in domestic food production while contributing little to decreasing the sector's emission problems in Switzerland.

Because of its projected shortcomings, the IDZ remained a largely academic exercise. It has been used for scientific publications (in progress) but is very unlikely to ever be implemented.

3.3. Case study 3: Small steps

3.3.1. Context and design

Switzerland is among the countries with the highest shares of subsidies for its farmers; the Swiss administration develops budgets and policy packages for parliamentary approval every four years to secure ongoing funding for the sector. In recent decades, there has been

a consensus that the main justification for support is the delivery of public goods. However, the Swiss farming sector's continuous failure to meet official environmental objectives, in conjunction with two radical public initiatives to engage in environmentally ambitious farming (Finger, 2021), has recently created pressure for the government to advance this dimension of agricultural policy. After a major reform in 2014 (Mann and Lanz, 2013) and minor adaptations in 2018, FOAG invited stakeholders to attend numerous workshops to develop a new policy package that would take effect from 2022 onwards. As an outcome of external and internal consulting, it has been suggested to basically continue with the same system but to implement a few changes to improve the environmental situation of the sector.

The many modifications to the complex system of Swiss agricultural policy were labelled AP 22+ and took the administration 258 pages to describe and defend (Schweizerische Eidgenossenschaft, 2020). While this report contained many measures that were unrelated to environmental issues, such as additional leeway for family enterprises to register as legal persons, the core environmental step was a reduction of the amount of nitrogen fertiliser one could apply and some other measures to reduce the nutrient load. In particular, there is currently a 10 per cent tolerance to add only as much nitrogen to the farm system as is used for production, and the elimination of this tolerance would have had the greatest impact. In addition, the amount of organic fertiliser to be distributed on farmland would have been reduced from 3 livestock units/ha to 2.5.

Also outside the nitrogen problem, environmental restrictions would be slightly tightened as delineated in the policy draft. A proportion of 3.5 per cent of the arable land would have to be used for ecological compensation measures. It was proposed to ban additional pesticides and recommended that pesticide-free production should be incentivised more strongly than before.

3.3.2. Experiences

The impact of the proposed policy package was estimated using the same agent-based model as the IDZ concept, and the simulation results were similarly sobering. Both the acreage of arable land (−5%) and the number of livestock units (−4%) would decrease, as would the degree of self-sufficiency (−4%) and aggregated farm incomes (−8%).

For past reforms of Swiss agricultural policy, the two parliamentary chambers at the national level usually made a few changes to the propositions by the administration and then approved the adapted bill. This was not the case in 2021, when both chambers decided to flatly reject the administration's proposal and to ask the administration to work on a programmatic strategy to develop Swiss agricultural policy further. The conservative majority argued that there were no strengths, only weaknesses in the administration's proposal. Some parliamentarians cited food imports in times of the coronavirus crisis, when even butter and cheese—strongholds of the many Swiss dairy farms—would have to be imported, and emphasised the reduced production that the proposed agricultural policy would entail. Others mentioned that there was no need to further reduce the options of farming families and restrict their incomes. There were also liberal parliamentarians who demanded a more basic approach to readjusting agricultural policy to the needs of the market.

3.3.3. Outcomes

Although the bill was rejected in parliament, parliamentary members still approved the necessary budget to continue the current agricultural policy. While the conceptual work in the administration has gained momentum in terms of the task assigned by parliament, there is some perception that there has been a standstill after the parliamentary vote, particularly among Switzerland's environmentalists (WWF, 2021).

4. Discussion

We first focus on an overarching comparison of the three cases and then discuss the identified common reasons for their failure. Finally, we discuss the study's limitations and provide directions for further research.

Table 2
Comparison of the three cases along key dimensions.

	Case study 1 (3V project)	Case study 2 (IDZ project)	Case study 2 (AP 22+)
Stage of policy process	Pilot project/pre-conceptualisation	Pre-operationalisation	Pre-approval by parliament
Governance approach	Bottom-up/interactive	Science-driven	Top-down plus stakeholder involvement
Overall goal	Improve environmental performance of Swiss agricultural policies	Improve environmental performance of Swiss agricultural policies	Improve environmental performance of Swiss agricultural policies
Objectives	Utilise knowledge by farmers and simplify policy	Use targeted indicators that improve environmental efficiency	Define stricter environmental rules
Context	Network of 31 farmers, consultants and administrators	Interdisciplinary research project	Reform package in parliament
Key actors	Federal Office for the Environment	Agroscope federal research station	Federal Office for Agriculture
Opposition/target conflict	Food production to secure self-sufficiency (reflected in Swiss Farmers Union's voice)	Food production to secure self-sufficiency (reflected in Swiss Farmers Union's voice)	Food production to secure self-sufficiency (reflected in Swiss Farmers Union's voice)
Outcome/goal achievement	Improvement of environmental performance of farming policies failed	Improvement of environmental performance of farming policies failed	Improvement of environmental performance of farming policies failed

4.1. Case comparison

As depicted in Table 2, the three reform attempts described in this article pursued different governance strategies. Case 1 was a conscious attempt to actively include the competence of farmers in agricultural policies. In contrast to this bottom-up approach, case 2 attempted to steer environmental science knowledge into improving agricultural policy tools. Finally, FOAG pursued a pathway in between the two approaches for case 3, when they combined stakeholder workshops with top-down planning. Other attempts could have been added to this, such as the two public initiatives for a radical greening of Switzerland's agricultural policy, which easily collected more than 100 000 signatures but then failed to obtain a majority at the polling box (Finger, 2021).

These initiatives did not aim to increase the economic output while liberalising environmental restrictions, nor have any other in the country aimed to do this. To the contrary, all initiatives focused on the environmental performance of the farming sector, attempting to decrease the adverse effects of farming on the ecology. However, why did none of them succeed?

4.2. Common reasons for failure

Public choice theorists would look in the realm of political markets to explain the failure of the Swiss initiatives. If agricultural policy is considered, for instance, as a process of rent-seeking (Schmitz, 2010), then the failure of the different initiatives could be attributed to the political power of the Swiss Farmers Union, which aim to protect their farming members from undue restrictions. Indeed, the Swiss Farmers Union fought unanimously against the AP 22+ policy concept presented in case study 3 (Schweizer Bauernverband, 2020). However, this stand-off between environmental lobbyists and agricultural lobbyists could have ended a different way. A public vote on a new hunting law in Switzerland in 2021 has shown that environmental groups have also been able to organise victories against the Swiss Farmers Union (Triaca, 2020).

That could mean that the failures described can plainly be attributed to public preferences. Improving environmental performance comes with costs. A lower self-sufficiency rate (which might decrease Switzerland's food security status) and lower value generation in the primary sector incur costs to secure more species, cleaner resources and a slightly slower process of global warming that Swiss citizens may find too high. It may help agricultural economists if they can account for the possibility that it is not the low environmental performance of agricultural policy that is the problem but that the ambitious environmental objectives can only be met via broader food policy measures. Studies on a global scale (Mora et al., 2020; Müller et al., 2017) have indicated that reducing food waste and the share of calories coming

from animal products are levers that can allow for an extensification of agricultural production. Such pathways may be a more fruitful option to solve the environmental problems of farming than the focus on national production intensities, which appear to have reached a dead end.

4.3. Limitations and directions for further research

Our research on common reasons for the failure of agricultural policy reform attempts could be improved in at least two ways. First, our study draws on a small number of case studies and qualitative methods for data collection and analysis. This research approach could be complemented by a larger-scale study that focuses on capturing causal complexity, using a method such as Qualitative Comparative Analysis. Second, while we were able to attain our objective of identifying common ground between the failed attempts, there were also other failed initiatives of making Swiss farming more environmentally friendly which we largely ceased to analyse.

5. Conclusions

This study aimed to identify common reasons for the failure of attempts to transform agricultural policy in Switzerland so that the sector's environmental performance would be improved. The comparison across the three cases on potentially relevant dimensions suggests that the failures described can mainly be attributed to public preferences. The focus on mere extensification of agricultural production would have also involved a reduction of the national self-sufficiency rate. This was fought unanimously against by agricultural lobbyists. Our findings thus support the conclusion that broader food policy measures are needed to achieve the sector's ambitious environmental objectives. Promising avenues for extensifying agricultural production without reducing the desired degree of self-sufficiency include the reduction of food waste and of the share of calories coming from animal products. Even though we have focused on agricultural policy reform attempts in Switzerland, it is likely that such attempts in other advanced economies are subject to similar target conflicts and sectoral policy limitations. The insights drawn from our study may thus be of interest to researchers and policymakers in other countries as well.

CRediT authorship contribution statement

Stefan Mann: Conceptualisation, Methodology, Formal analysis, Investigation, Writing – original draft, Writing – review & editing, Funding acquisition. **Antonia Kaiser:** Conceptualisation, Methodology, Formal analysis, Investigation, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

A.1. Interview sample

See Table A.1.

Table A.1

Interview sample description ($n = 5$).

ID	Gender	Canton	Case study
F1C1	Male	Thurgau	Case study 1
F2C1	Male	Thurgau	Case study 1
F3C1	Female	Thurgau	Case study 1
FAC1	Male	Thurgau	Case study 1
PTC1	3x Male	–	Case study 1

A.2. Interview topics

The main topics of the interviews with farmers (F1C1-F1C3) were:

- The history of the farm
- What differentiates the farmer's practices from others
- Reasons for participation in the project
- Experiences as participating farmers in the 3V project
- The main sustainability related challenges on the farm
- Agricultural policies from the farmer perspective

The interview with the farm adviser (FAC1) dealt with:

- Their role as farm adviser
- Development and changes in agriculture over the last 10/20 years
- Current sustainability issues and approaches to solutions in the canton
- Experiences as adviser in the 3V project

The interview and project management team (PTC1) dealt with:

- Governance of the project
- Experiences with the project so far
- Central challenges as perceived by the project team

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