

Project: Food Systems Transformation

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# Food Systems Transformation

Sustainable, healthy and accessible  
food for all

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# Executive Summary

The envisioned scenarios and policy recommendations outlined in this policy brief offer a comprehensive and forward-thinking perspective on the transition towards sustainable and resilient food systems in Switzerland and Europe by 2030.

The three distinct visions encapsulate transformative changes in the domains of food production, aggregation, processing, distribution, and consumption. Each scenario reflects a collective commitment to ethical, sustainable, and equitable practices, underscoring the pivotal role of collaborative efforts between civil society, farmers, consumers, and various other stakeholders along the food chain.

The introduction of ethical guidelines and oversight and the adoption of an open-source innovation model, inspired by the principles of the free and open-source software movement, is pivotal for fortifying agricultural innovation and global advocacy, particularly through Switzerland's unique position with International Geneva, emerging as a strategic pathway for influencing global food systems. In essence, these scenarios and recommendations reflect a holistic understanding of the complexities inherent in the globalised food system. They emphasise the interconnectedness of various actors and processes, underscoring the need for systemic changes at both the national and international levels. The proposed actions align with the principles of sustainability, resilience, and inclusivity, offering a roadmap towards a more ethical, transparent, and environmentally conscious food system. As we navigate the challenges of the present and future, these visionary scenarios provide a compelling vision for a food system that prioritises the well-being of the planet, society, and future generations. ●

# 1. Introduction

According to studies, Food systems are responsible for around one-third of CO<sub>2</sub>-equivalent emissions in Europe and greatly contribute to biodiversity loss ([Crippa et al., 2021](#)). This is the result of a historically productivist and industrial approach to food production in Europe since the 1960s largely relying on the use of chemical fertilisers and subsidy schemes benefiting large-scale industrial food production.

Food systems policy goes well beyond looking at agriculture alone as it concerns the whole value chain as often stated “from farm to fork” and a variety of actors involved in food production, aggregation, processing, distribution, and consumption processes.

With the [Food System Summit](#) in September 2021, the United Nations, its Member States, and other non-state actors officially recognised the importance of taking a holistic approach when dealing with the agri-food sector and policies (Chandrasekhar, Viglione, 2021). Around 150 countries announced voluntary commitments to ensure more “resilient, inclusive, and sustainable” food systems. Since then the need to transition towards more sustainable food systems has been further mainstreamed within multilateral fora, notably at the [COP27](#) meeting in Sharm El-Sheik (focusing on climate aspects) and the [COP15](#) in Montréal (focusing on biodiversity loss) (Nat Food, 2022). In the context of regional organisations, as part of the European Green deal, the European Union launched the [Farm to Fork Strategy](#) aims to accelerate the transition to a sustainable food system ensuring food security, lower environmental impact and reverse the loss of biodiversity with the setting of both regulatory and non regulatory initiatives (European Commission, 2024a).

Yet the political way forward is stony and clear-cut policy measures are still largely missing at the national level.

In 2022, as a result of climate change-related phenomena such as severe droughts, combined with geopolitical turmoil initiated by the war in Ukraine initiated by Russia, food security became a major global issue with the Eastern African region being most heavily affected. As a consequence, some call into question the ideas championed for the transition towards more sustainable food systems, claiming that it could jeopardise global food security (Wax, 2023).

While food system activists and a majority of the scientific community generally disagree with the assumption that food system transformation jeopardises food security, opposing forces gained political momentum in 2022. Indeed, pivotal policy initiatives such as the EU's Farm to Fork Strategy, encompassing ambitious endeavours like the EU-wide food sustainability label and the redirection of agricultural subsidies towards more sustainable crop production and animal farming practices, are facing harsh opposition and are largely [being put on hold](#). The current state of crisis in Europe with Russia's invasion of Ukraine, internal discord, and apprehension of potential reprisals from the agricultural sector have elevated these challenges to the realm of "high political concerns", leading to a substantial stalling of these critical measures (Wax, 2023).

Taking into account these major elements of resilience and food security, this policy brief is exploring the following questions: How can a transition towards sustainable and resilient food systems in Europe be achieved by 2030? Which national policies and transnational governance schemes are needed to achieve sustainable and resilient food systems in Europe by 2030?

## Project context and methodology

From a methodological perspective, the multi-stage process that preceded this policy brief consisted of a visioning workshop during which participants developed visions of a reality where a transition towards a sustainable and resilient food system was achieved in Switzerland and Europe more generally in 2030, focusing on one of three sectors : (1) Production (2) Aggregation, procession & distribution (3) Consumption. They also formulated recommendations for necessary policy steps to be taken at national and international levels. Second, participants were invited to provide their input on this final document, allowing for a condensation of ideas, visions and recommendations. Throughout the entire process foraus' policy crowdsourcing methodology and online platform Policy Kitchen was utilised. In the following project brief, the key concepts and visions are first introduced, followed by a list of recommendations to achieve them. As each section presents interlinkages dictated by their systemic nature, we decided to address them holistically rather than individually providing a unique section where policy recommendations are presented. Given the depths of the thematics explored, this list of recommendations is not exhaustive and should be seen as initial points of reflection to be further explored and operationalized in regional and national settings. ●



# 2. Three visions for 2030

## **Vision 1: A Collective Journey Towards Ethical and Sustainable Agriculture**

In 2030, a remarkable shift in the dynamics of food production has emerged, driven by the collaborative efforts of civil society, farmers, and consumers. Together, they have reclaimed control over these essential sectors, emphasising ethical, sustainable, and equitable practices like never before. This transformative movement, born from networks uniting consumers and farmers, stands as a testament to grassroots empowerment. By banding together, these groups successfully challenged the dominance of corporations, catalysing systemic changes.

Recently, the Swiss Federal Food Safety and Veterinary Office unveiled pioneering ethics and environmental guidelines for food production. Originating from the proactive collaboration between animal welfare organisations and civil society, this initiative gained momentum, drawing attention from policymakers. Under scrutiny, the government and the FSVO released reports that incorporated insights from academic experts and civil society voices.

Through this newfound organisation, civil society became a formidable force against retail giants, reshaping their influence. No longer beholden to retailers dictating prices, this collective pressured them to decrease profit margins on unsustainable products while elevating those on sustainable food items. Furthermore, a transformation of retailers (e.g., Coop and Migros), processors (e.g., Emmi), traders, and input producers (e.g., Fenaco) occurred. These entities, once diverted from their cooperative roots by management, underwent a revival, aligning their operations with the greater societal interest in fostering a sustainable and equitable food system.

Recognizing the dangers of corporate monopolisation in plant and animal realms, the landscape of intellectual property underwent a significant overhaul.

Patents were replaced by an open-source model for agricultural innovation. In a groundbreaking move in 2025, the European Patent Office, alongside Switzerland, and other European authorities, revolutionised intellectual property models. This transition mirrored the principles of open-source software, eliminating the monopolistic hold on innovations. To fund pioneering advancements, a minor levy on each food item sold was introduced. These funds fuel a breeding and agricultural technologies initiative, enabling companies and organisations to apply for grants. This collaborative effort birthed numerous novel plant varieties, animal breeds, and precision farming technologies, now under the stewardship of farmers and society rather than monopolistic corporations.

This collective reshaping of the food system stands as a testament to the transformative power of unified efforts, driven by shared values and a commitment to a sustainable future.

## **Vision 2 : Empowering Tomorrow's Plate: A Blockchain Revolution for Transparent, Sustainable, and Fair Food Systems**

By 2030, a sustainable and resilient food system was achieved thanks to the integration of blockchain technology and the establishment of a comprehensive transparency system operating at 3 crucial levels: (1) Transparency on ecological level involving detailed information about the ecological impact, including travel route and resources used; (2) Transparency level on social level encompassing insights into working conditions throughout the supply chain, and (3) Transparency on economic level including information on prices and true costs, fostering a deeper understanding of the economic aspects of the food system. What began as a small-scale initiative rapidly evolved into a transformative force, gaining momentum through the swift onboarding of all stakeholders of the food chain, from farmers to consumers and the scientific community. The success of this initiative is attributed to its straightforward approach to information development, facilitating the dissemination of knowledge to a broader audience.

This tool not only garnered widespread recognition but also catalysed a cultural shift towards trust in the transparency system. Recognising its potential and now better informed, the government played a pivotal role by establishing a transitional fund, supporting best practices and encouraging farmers to adopt agroecology principles. Simultaneously, higher commodities traders operating in Switzerland faced a paradigm shift. They were compelled to formulate strategies aligning with a net-zero CO<sub>2</sub>, biodiversity friendly and socially responsible agricultural system. This shift was propelled by the government's mandate and the growing demand for sustainable practices by the general public

On a broader scale, intellectual property regimes for seeds, which once restricted farmers' rights and jeopardised food security, were no longer enforced by partner countries. Additionally, the export of trade of highly hazardous pesticides were halted, making a significant step towards promoting global food safety and biodiversity conservation.

### **Vision 3 : Switzerland's Food Revolution: Cultivating Sustainability and Redefining Cultural Norms**

In a remarkable shift, Switzerland has transcended the idyllic imagery of its iconic cows adorning postcards to champion a robust ethos of sustainability. This transformation stemmed from a groundswell of grassroots movements meticulously orchestrating a recalibration of the prevailing narrative surrounding industrial dairy agriculture—a narrative entrenched in mainstream consciousness.

These movements galvanised networks, fostering a collective agreement on what a sustainable food system in Switzerland could embody. Through collaborative efforts, a pivotal moment arose — a 'social tipping point' — as roughly a quarter of the Swiss populace conscientiously chose to abstain from dairy consumption. This pivotal shift heralded the establishment of a novel norm: widespread adoption of a vegan diet. With this new sustainable norm firmly in place, social dynamics underwent a profound evolution. Social comparisons emerged as potent tools, inspiring individuals to align their lifestyles with those of exemplars living sustainably.

People gravitated towards these role models, using them as benchmarks for enhancing their own lifestyles, thereby fostering a ripple effect of positive change.

This cultural transformation didn't merely replace an outdated paradigm; it ignited a movement where sustainability became a shared aspiration — a benchmark against which personal choices and societal progress were measured. Switzerland, once synonymous with pastoral scenes of grazing cows, emerged as a trailblazer in redefining societal norms, embracing sustainability as a collective endeavour. ●

# 3. Discussion & Policy Recommendations

The three scenarios presented above propose similar actions to achieve sustainable and resilient food systems by 2030. These propositions were agglomerated into three overarching sets of recommendations: Ethical guidelines and oversight, the introduction of an open source innovation model, and global advocacy for sustainability. In the following chapter these themes were materialised into a set list of recommendations. While implementation is foreseen at the national level, multilateral efforts should be undertaken taking into context the highly globalised food systems.

## **Recommendation 1: Ethical Guidelines & Oversight**

As articulated in Visions 1 and 2, the coalition of stakeholders within the food chain is pivotal not only for enhancing transparency within food systems but also for fostering ethical, sustainable, and equitable practices in food production, distribution, and consumption.

This collaborative initiative was first introduced in June 2019 with the release of the final report for the National Research Programme '[Healthy Nutrition and Sustainable Food Production](#)' (NRP 69), commissioned by the Federal Council. To fulfil its overarching recommendations — particularly the creation of a Swiss nutrition strategy to ensure the provision of sustainable food for the entire Swiss population — the NRP advocates the establishment of an advisory board. This board would comprise members representing agricultural producers and industry, the retail trade, public health experts, and consumers (SERI, 2024).

The formation of such a board necessitates a mandate from the Federal Council to involve key entities such as the Federal Office for Agriculture (FOAG), the Federal Office for Food Safety and Veterinary Affairs (FSVO), the Federal Office of Public Health (FOPH), the Federal Consumer Affairs Bureau (FCAB), and the State Secretariat for Economic Affairs (SECO). This collective effort aims to assemble experts and practitioners from various domains. The board should be mandated to oversee critical aspects that necessitate transformative changes in the existing food system. Identified concerns would then be communicated to the federal government for consideration. Moreover, Vision 2 underscores the establishment of a comprehensive transparency system, a responsibility best entrusted to this collaborative group. Given that the crux of any transparency system lies in data collection, stakeholders in each industry should be obligated to share specific information with the relevant federal offices, enabling the dissemination of information to the general public. Additionally, the board should be empowered to codify and monitor compliance with a set of ethical and environmental guidelines, applicable to all stakeholders within the food system.

## Recommendation 2: Open-Source Innovation Model

Derived from the ethos of the free and open-source software movement, as delineated in Vision 1, the imperative of integrating an open-source paradigm to supplant the prevailing patents model becomes evident. This transformation is deemed essential to fortify agricultural innovation, ultimately fostering a sustainable and ethical system, with an inherent commitment to both sustainability and food security. The adoption of an open-source patent system serves not only to address these concerns but also as a formidable deterrent against issues like patent stacking.

The year 2021 witnessed initiatives striving to enhance the current patent system, emphasising transparency and exemptions. Microsoft Research, in 2022, propelled [FarmVibes.AI](#) into the open-source realm, envisaging the creation of tools and methodologies empowering farmers to embark on a more sustainable trajectory (Microsoft, 2024). Simultaneously, the European Union, as part of the Common Agricultural Policy, conceived platforms such as [FaST](#) and [FOODIE](#), thereby fostering the dissemination of knowledge and the application of sustainable farming practices. In the realm of patent models, initiatives have been set in motion in both the EU and Switzerland, particularly in the harmonisation of patent and plant breeders' rights. The Federal Council, therefore, should confer upon the Swiss Federal Institute of Intellectual Property (IPI) the mandate for creating an open-source model, exemplified by initiatives like [The Open Source Seed Initiative](#) in Australia (Open Source Seed Initiative 2024). The construction of such a system necessitates the engagement of knowledgeable stakeholders and experts, encompassing the envisaged board from the preceding chapter and non-governmental actors such as NGOs.

The implementation of a novelty patent model warrants concurrent research commissioned by the federal government and the allocation of grants to private entities, incentivising the aggregation of knowledge, methodologies, and tools for subsequent dissemination among farmers nationwide. For optimal efficacy, the open-source model should be synergised with state actors, such as the EU.

### **Recommendation 3: Global Advocacy**

Switzerland, with the presence of International Geneva, is uniquely poised to adopt and advocate for a leading role in enhancing global food systems. The presence of key entities such as the Food and Agriculture Organization of the United Nations (FAO), the World Intellectual Property Organization (WIPO) and numerous non-governmental organisations dedicated to addressing these issues establishes a robust foundation. Aligned with the principles of the Sustainable Development Goals (SDGs), Switzerland can fortify its standing by assuming a supportive role for these influential actors.

As emphasised in Vision 2, the intricacies of the food system, woven into a globalised chain and market, necessitate substantial modifications at an international level. Switzerland, in light of its role on the UN Security Council focused on Building Sustainable Peace, Protecting Civilians, Addressing Climate Security, and Enhancing Effectiveness, may pivot its strategic agenda to endorse a new theme of action — specifically, the revision of the global food system. Leveraging its expertise, particularly within International Geneva, Switzerland could harness existing structures like cinfo or CAGI to establish a network of organisations facilitating collaboration among experts. This wealth of knowledge could then be channelled into organising specialised working groups, addressing critical topics such as the revision of intellectual property related to seeds and the prohibition of trade in hazardous pesticides. Subsequently, Switzerland could present these well-researched proposals to pertinent international organisations, thereby contributing to a comprehensive and systemic transformation. ●



# 4. Conclusion

The world needs more efficient food systems based on principles of solidarity and transparency that critically assess traditional approaches and leverage the potential of collaboration and emerging technologies. This Project Brief provides three visions and policy recommendations towards more sustainable, healthy and accessible food for all through more transparency pathways, open-source data, and a paradigm shift among food systems by 2030. Main recommendations resulting from the three visions and policy ideas are detailed in the box below. The recommendations made by the author highlight that the international community needs to tackle the issues at stake through a comprehensive and cross-sectoral strategy involving all parties to prepare our food systems to be more resilient and based on equality. Expressed in Visions 1 and 2, the collaboration among stakeholders in the food chain is crucial not just for improving transparency in food systems but also for promoting ethical, sustainable, and equitable practices across the stages of food production, distribution, and consumption. The introduction of an open source based patent model requires simultaneous research initiated by the federal government and the provision of grants to private entities. This approach encourages the gathering of knowledge, methodologies, and tools, fostering their subsequent distribution among farmers across the country. To achieve maximum effectiveness, it is essential to integrate the open-source model with state entities, including the EU. Finally, as highlighted in Vision 2, the complexities of the globalised chain and market that constitute the food system require significant adjustments on an international scale.

The recommendations presented in this work show that to attain such goals, a major shift in thinking, as well as in the way we organise our lives, interact with the ecosystems that surround us, and traditionally manage food systems, is needed. The tools presented request a demanding effort, however in the future, they can serve as a way to avoid future crises. ●

## Vision for 2040

### 1. Promoting Stakeholder Collaboration:

- Establish an advisory board, composed of diverse stakeholders in the food chain and actively involve it in the overseeing of transformative changes in the food system.
- Empower said board to codify and monitor compliance with a set guide of ethical and environmental guidelines applicable to all stakeholders within the food system.
- Stakeholders in each industry should be obligated to share specific information with the relevant federal offices, enabling the dissemination of information to the general public.

### 2. Support for Open Source Patent Model:

- Allocate federal resources for concurrent research on the open-source patent model.
- Establish grant programs to financially support private entities engaged in open-source innovation for agricultural practices.
- Implement policies that incentivize the dissemination of knowledge, methodologies, and tools derived from the open-source model among farmers nationwide.

### 3. Integration with State Entities:

- Formulate strategies to seamlessly integrate the open-source patent model with state entities at the national level.
- Explore collaborative opportunities with international bodies, such as the European Union, to enhance the effectiveness of the open-source model.
- Foster cross-border cooperation to leverage collective expertise and resources in advancing agricultural innovation.

### 4. Addressing Global Complexity through International Geneva:

- Leverage International Geneva by assuming an advocacy role for international cooperation and coordination, fostering connections among experts to facilitate more impactful discussions between experts and decision-makers.
- Participate in multilateral efforts to establish standards and regulations for ethical, sustainable, and equitable practices in global food systems.
- Support research and policy initiatives that facilitate harmonisation of international practices for a more resilient and sustainable global food ecosystem.

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We would like to thank all participants for their active contribution to the content of this brief during and after the workshops.



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## Sustainable, healthy and accessible food for all

This report presents the outcome of a transnational, participatory strategic foresight process organised by foraus and in collaboration with Agora, the open forum for foreign policy, on future food systems. By taking an anticipatory approach, we envisioned possibilities outside the usual policy narrative – with tangible results. Our crowd-sourced policy action areas are based on three alternative futures, possible versions of the world in 2030, and set the political course of the preferred futures today by encapsulating transformative changes in the domains of food production, aggregation, processing, distribution, and consumption.