



# **Co-Creation of Sustainable Food Supply Chains through Cooperative Business Models and Governance (CO-SFSC)**

## **Policy Brief**

### **Introduction**

The Co-creating Sustainable Food Supply Chains project (Co-SFSC) researches how governance arrangements, business models, and collaborative practices can support the development of sustainable food systems across diverse regional contexts. Through transdisciplinary research conducted in multiple international hubs, the project engages with public authorities, private enterprises, and civil society actors to identify structural barriers and supporting conditions for sustainable food supply chains.

Across all its hubs, the project combines practice-based interventions with analytical research to assess how governance innovations, cooperative models, and stakeholder collaboration contribute to sustainability outcomes. The comparative approach allows for the identification of both common patterns and context-specific dynamics, which provides a basis for targeted policy recommendations at municipal, regional, and national levels.

### **The local hubs**

#### *Germany (Freiburg)*

The Freiburg hub, led by the University of Freiburg, collaborated with five independent organic retail businesses to examine the conversion to consumer cooperative models. The intervention focused on co-developing membership structures and assessing sustainability and economic performance before and after conversion. The research addressed how cooperative models can be operationalised, which success factors enable conversion, and whether such models can stabilise independent organic retailers economically.

#### *Germany (Karlsruhe)*

The Karlsruhe hub, led by the Research Institute Itas of the Karlsruhe Institute of Technology focused on municipal and regional food system governance and is engaging with local stakeholders to explore pathways toward more sustainable and integrated food systems. The intervention examined governance mechanisms and stakeholder coordination processes, with a focus on identifying the institutional barriers and opportunities for implementing systemic food strategies at the local level.

### *Sweden*

The Sweden hub, led by KTH Royal Institute of Technology, collaborated with Södertälje Municipality, MatLust, and Beras International in the Bio-district Sörmland region. The intervention focused on municipal food procurement and the development of collaborative governance mechanisms, including a scenario-based game and the establishment of a regional bio-district. The research addressed how municipal governance and regional governance configurations can support sustainable short food supply chains.

### *Taiwan*

The Taiwan hub, led by National Taipei University, collaborated with agricultural SMEs within the “Big Granary Program,” including Uncle Sweet and Taiwan Soybean Farm. The intervention focused on co-creating a localized sustainability and governance assessment model through stakeholder workshops. The research addressed how policies can improve food self-sufficiency, how governance frameworks can balance food and energy objectives, and how SMEs can adopt international sustainability standards.

### *Thailand*

The Thailand hub consists of members from three universities in Thailand: Mahidol University (MU), Chulalongkorn University (CU), and Ubon Ratchathani University (UBU). They engaged with local agri-food actors to explore sustainable supply chain development within a context of agricultural transformation and market integration. The intervention focused on strengthening coordination between producers and supply chain actors, with research addressing governance barriers, market access, and sustainability practices in regional food systems.

### *Turkey*

The research team of the Turkey hub consists of Aylin Topal, Işıl Servetoğlu and Çiğdem Adem from Middle East Technical University (METU) in Ankara and Fikret Adaman, Zühre Aksoy and F. Hazal İnce from Boğaziçi University in Istanbul. They examined sustainable food supply chains in a context shaped by agricultural restructuring and regional development challenges. The intervention focused on stakeholder collaboration and governance arrangements, with research addressing barriers to coordination, institutional capacity, and the integration of sustainability practices in food systems

## **Results**

Across all hubs, the findings highlight the central role of governance arrangements in shaping the development of sustainable food supply chains. One consistent result is that effective implementation depends on coordination across multiple levels of governance and between diverse actors. In both Sweden and Taiwan, governance incoherence between policy domains emerged as a key barrier, particularly where sectoral policies operate in parallel without integration. Similarly, the Freiburg hubs case demonstrates that cooperative business models require supportive institutional environments to function effectively.

A second cross-cutting result concerns the importance of capacity building. In Taiwan, SMEs require support to adopt sustainability frameworks, while in Freiburg, cooperative enterprises depend on access to advisory services, training, and financing. These findings indicate that

governance interventions must extend beyond regulation to include enabling functions that support actors in implementation processes.

At the same time, several results are context-specific. The Sweden hub emphasizes the role of regional governance configurations such as bio-districts in enabling collaboration, while the Taiwan hub highlights the need to integrate food and energy policy. The Freiburg case is distinct in demonstrating the stabilizing potential of cooperative ownership models in retail contexts.

### **Challenges**

A common challenge across all hubs is the lack of coordination between governance levels and policy domains. In Sweden and Taiwan, inconsistencies between national, regional, and local policies create barriers to implementation, particularly in areas where food systems intersect with other sectors such as energy or procurement. These structural misalignments limit the effectiveness of otherwise well-designed policy interventions.

Another shared challenge relates to limited capacity among actors. In Freiburg, small businesses face constraints in establishing and managing cooperative models, while in Taiwan, SMEs lack the resources to implement complex sustainability frameworks. These capacity gaps highlight the need for targeted support mechanisms. Additionally, context-specific challenges include administrative fragmentation in municipal governance (Sweden) and market instability in agricultural supply chains (Taiwan).

### **Successes**

Across the project in all hubs, a key success lies in the effectiveness of transdisciplinary collaboration. All hubs demonstrate that engagement between researchers and practitioners enables the co-creation of context-specific solutions, such as governance assessment tools in Taiwan or cooperative models in Freiburg. These approaches improve the relevance and applicability of research outcomes.

Another common success is the development of innovative governance mechanisms. The Sweden hub's bio-district and scenario-based collaboration tools, as well as Taiwan's localized governance assessment model, illustrate how new institutional arrangements can address coordination challenges. In Freiburg, cooperative ownership structures demonstrate potential for strengthening economic resilience and sustainability in local food systems.

### **Policy suggestions**

The project helped identify several common policy priorities across the hubs. First, to strengthen governance coherence, which includes establishing coordination mechanisms across policy domains and governance levels to address structural inconsistencies, particularly in areas where food systems intersect with other sectors such as energy or procurement.

Second, policies should focus on enabling functions such as capacity building, advisory support, and access to financing. The Freiburg and Taiwan cases demonstrate that actors

require institutional support to implement cooperative models and sustainability frameworks. Without such support, policy objectives cannot be effectively realized.

At the same time, policy approaches must be adapted to context-specific conditions. For example, Taiwan requires integration of food and energy governance, while Sweden emphasizes regional governance innovations such as bio-districts. Freiburg highlights the importance of supporting cooperative business models through targeted funding and education.

## **Conclusions**

The Co-SFSC project demonstrates that sustainable food supply chains depend on governance arrangements that integrate multiple actors, sectors, and levels of decision-making.

Across all hubs, the findings show that policy effectiveness is contingent on coordination, capacity, and the alignment of institutional frameworks with on-the-ground realities.

At the same time, the project highlights the importance of context-specific approaches. While common challenges such as governance fragmentation and capacity constraints are present across cases, the solutions vary depending on institutional and economic conditions. This points towards the need for flexible policy design that combines general principles with locally adapted interventions.

Overall, the project confirms that sustainable food system transformation requires both structural governance reforms and practical support for actors within the system.

Strengthening these dimensions can enable more resilient, transparent, and sustainable food supply chains across diverse regional contexts.