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## 22. The cooperation dilemma: can agricultural cooperatives sustainably survive in a globalised food system while contributing to food security?

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### INTRODUCTION

Researchers studying alternative organisational models including cooperatives normally focus on worker-owned cooperatives, highlighting their potential for transforming labour relations, the economy and society more generally (Birchall, 2011). While worker cooperatives are often more involved in social movements and their activities more embedded in their local areas, in the case of large agricultural cooperatives, the sector's ambition to pursue growth and exports encourages farmer members to sell to faraway markets (Bijman et al., 2012).

With 3,669 agricultural cooperatives, Spain is the second country in Europe after Italy with the highest number of these farmers' associations (Vilches Varo, 2020). Additionally, Spain is a lead exporter of fruit and vegetables. Due to the democratic nature of the cooperative form, there is a common assumption that agricultural cooperatives empower their members and allow farmers to have a stronger voice in the supply chain (Ajates, 2020a). At the same time, recent data show sober statistics on food security in Spain, with nearly 15% of households reporting some level of insecurity. Why are cooperatives, often considered a sign of a healthy and democratic farming and food sector, failing to contribute to national food security? This question raises in turn broader matters around the boundaries of food security and the remit and limitations of agricultural cooperatives. Does livelihood security for producers necessarily clash with food security for consumers? How can synergies between the two be created?

This chapter explores these questions by analysing the current picture of food security in the country, then mapping the agricultural cooperative sector, and presenting a breakdown of its structure, turnover and internalisation trends. The country's food import and export balance sheet shows how food insecurity is decoupled from national food availability. This is followed by a discussion of how long supply chains and export markets complicate the notion of food security and food system sustainability from a national perspective. Next, three different types of enabling cooperative models are set out; these, I argue, can contribute to relocalising agricultural cooperation for food security. The chapter ends with some conclusions, suggestions for further research on these topics, and a set of integrated policy recommendations.

### FOOD INSECURITY IN SPAIN

Previous chapters in this volume have covered in detail the definition and indicators of food insecurity from an Food and Agriculture Organization (FAO) perspective (see chapters 6 to 9

for discussion and definitions of food insecurity). Recently, there have been calls for an extension of the FAO definition to move from a four-dimensional framework for food security, to a six-dimensional one, including two new dimensions for agency and sustainability (Clapp et al., 2022). In this chapter, the case of Spain is discussed, taking into account this more integrated framework for food security.

Spain has a population of 47.3 million people and approximately 19,000 households. A study published in 2022 found that more than six million people in Spain (13.3% of Spanish households) suffer from some degree of food insecurity and do not have access to sufficient and nutritious food for an active life and healthy diet (Moragues-Faus and Magaña-González, 2022). This study was the first to measure levels of food insecurity in Spain using the FAO Food Insecurity Experience Survey scale, including variables related to household, health and eating habits. Before the outbreak of the pandemic, 11.9% of Spanish households suffered from food insecurity. Severe levels of food insecurity have doubled since then. The two periods analysed, pre and post pandemic, allowed researchers to determine that the problem of food insecurity in Spain is not cyclical (i.e., the result of a specific and special period of crisis); it owes more to structural determinants. Thus, the current picture of food insecurity is not a new issue caused by the pandemic, but rather is exacerbated by it. Already in 2008, at the beginning of the previous financial crisis, 25% of Spanish persons aged under 16 years were suffering from malnutrition (Martín López and Fillol Mazo, 2021). Nearly ten years later, in 2017, 3.7% of people were suffering from food insecurity, measured then by the inability to afford a red meat, chicken or fish meal every two days (Martín López and Fillol Mazo, 2021). There was a gender difference, with that percentage being 3.8% for women and 3.5% for men. Another report from 2020 presented data from 2018 indicating that food insecurity was affecting 13.5% of the Spanish population (OGDAM, 2020). Levels of food insecurity are believed to be increasing even more due to the circumstances of the economic crisis arising from the pandemic. Sources linked to food banks point out that requests for food aid increased by between 50% and 70% in 2021, and a new increase of 20% is expected this year due to inflation and the generalised escalation of prices as a consequence of the war in Ukraine (El País, 2022a). As inflation and food prices continue to rise, all the foods measured by the INE (the National Institute of Statistics), without exception, had increased in price in 2022 compared with April 2021: for example, olive oil rose by 42.5%, pasta by 25% and fresh fruit by 9.5% (El País, 2022a).

The Spanish Observatory for the Right to Food (ODA) is developing a comprehensive list of data points from existing surveys to come up with a methodology to measure food insecurity (ODA, 2022). It is hoped that new parallel efforts will help monitor levels of food insecurity in the country, which many authors have highlighted has been insufficiently and inadequately measured until now (Martín López, 2018; González et al., 2021; OGDAM, 2021; Moragues-Faus and Magaña-González, 2022).

From these studies, two important reflections on how food insecurity is measured and tackled emerge. One is methodological, and the second relates to policy interventions. First, it is essential to reflect on the methodology used until now for measuring self-reported food insecurity. Most surveys use self-reported consumption of animal products as indicators of food security. These indicators will need to be adjusted to take into account a rise in vegan, vegetarian and flexitarian diets; i.e., non-consumption of animal-based products does not necessarily mean food poverty for those on plant-based diets. Also, the intake of highly processed and cheap animal products such as fast food burgers cannot be taken as an indicator of

a secure and nutritious diet either. Current methodologies are outdated and might give way to inaccurate data, e.g., assuming that a person only able to afford a €1 meat burger every three days as their only protein intake is enjoying food security.

While Spain continues to be a big consumer of meat and the second-largest consumer of fish in the world only after Japan, the rise of self-reported “veggies” – a term used by a company specialised in monitoring diet changes in Spain to refer to people who identify as vegans, vegetarians and flexitarians – had already reached 7.8% of the adult population in 2017 (Lantern, 2017). In the second edition of this survey from 2019, this percentage grew by 27%, with more than 800,000 new consumers identifying as “veggies”, demonstrating that this trend was becoming a consolidated social reality. In the third edition of the study, in 2021, there were 1,300,000 new “veggies” (+34% growth in two years). The total number of veggies already exceeds five million people (Lantern, 2017, 2019 and 2021). One in eight women in Spain identifies as veggie (13.1%), a figure that is stable compared with 2019. However, the most explosive evolution is found among men, the main protagonists of the change. In 2019, 6.8% of men identified as veggies, and in just two years this percentage has risen to 12.9% (Rodriguez, 2021). A recent study found that there is a greater probability of consuming plant-based diets among the Spanish population with healthy behaviours (Cantero et al., 2022).

The second point to reflect on concerns policy interventions. As in other countries such as the UK, the dominant model of food aid in Spain is also based on what has been termed “the new charity economy”, with minimal, fragmented and privatised (delegated to the third sector) interventions by the state. However, it is clear that this model is under stress and the contradictions, criticisms and debates within it are multiplying (Pascual et al., 2022). Additionally, the questionnaires currently used offer only a point in time measures, with no predictive element to help design future policies. Furthermore, the feelings of worry, hunger and individual experiences of food insecurity are overlooked or simplified by these surveys, disdaining any attempts to measure situated agency (Clapp et al., 2022). Authors such as Caraher and Furey (2018) have warned of the dangers of relying on food banks as a sticking plaster to food poverty, using “leftover food for leftover people”. Decent incomes allowing every person to afford to pay fair prices that enable farmers’ livelihoods and sustainable food production is the required solution to fix the rising levels of food insecurity in Europe.

Next, I turn to discuss how food insecurity is decoupled from food availability, in the context of a growing internationalisation of the food sector and agricultural cooperatives in Spain, raising questions around the country’s “foodprint” and the loss of local embeddedness of large agricultural cooperatives.

## FOOD INSECURITY IS DECOUPLED FROM FOOD AVAILABILITY

Spain’s agricultural production value in the context of the European Union tends to be a higher percentage than the country’s economic weight in the European economy. The country’s agricultural production value in 2017 was 17%, compared with an 8% contribution to the European gross domestic product, while in 2020 it was 18.4% and 8.4% respectively (PwC, 2019; Eurostat, 2021). Spain is the fourth-largest exporter of agri-food products in the European Union (MAPA, 2021a). According to government data, Spanish agri-food and fisheries exports reached an all-time record of 53,848 million euros in 2020, an increase of 4.1% over 2019 (MAPA, 2021a). Total imports in 2020 in all sectors fell by 14.7%, compared

with 2019. However, this reduction was smaller in the agri-food and fisheries sector, with only a 4.6% decrease. As a result, the trade balance of the Spanish agri-food and fisheries sector (the difference between exports and imports) increased by 25.8% over the year as a whole, and amounted to 18.693 million euros, a figure that also represents a record in the historical series of these indicators (MAPA, 2021a). In contrast, the overall trade balance of the Spanish economy fell by 57.4% in 2020. Thus, the agri-food and fisheries sector consolidated the important role it plays in Spanish foreign trade, and now accounts for more than a fifth (20.6%) of the national economy's total exports, while imports represent 12.8%. The top monetary return for exports came from the fruit group, followed by meat, the subsector with the highest growth, while vegetables were the third-largest export group (MAPA, 2021a). The European Union remains the preferred destination for Spanish food and beverage exports, accounting for 63%. The proportion represented by the EU until last year was even higher, 72% in 2019, before Brexit. Although the data refer to 2020, the UK is already included as a third country in the report in 2021.

While Spain produces more than enough food to feed its population, it is obvious that food insecurity is decoupled from a country's ability to farm sufficient food to meet its needs. Spain continues to be a net exporter of fruit, vegetables, pulses and meat products, with a trade surplus of 6,704.8 million (+5.8 %) (Food Retail, 2021). In the 20th century, until around 1960, Spain's level of self-reliance was high, with around 90% of food produced in the country. Imports were limited, as the country only received imports such as wheat in years of poor harvests. During the first half of the 20th century, the Spanish food subsector constituted the export base of the Spanish economy: citrus fruits, oils and wines. The trend has continued, and the five most exported products in 2020 were pork, citrus fruit, olive oil, wine and stone fruits (MAPA, 2021a). According to a study by Friends of the Earth using imports data from 2007, food imported into Spain was already travelling up to 5,000 km (Amigos de la Tierra, 2012). Today, Spain's ecological footprint has tripled, as a much higher proportion of its food comes from imports from other countries. The food groups that travel the most kilometres to Spain are cereals, animal feed, coffee, fish and seafood, whose main origin is Europe and, increasingly, America. The trend on food imports for these food groups has remained the same. The most imported products in 2020 were molluscs, maize, palm oil, soya beans and fresh fish (MAPA, 2021a). Maize and soya are used to feed animals in industrial farming, with the associated negative impacts this type of farming has on water availability and climate change. The feed comes mainly from Argentina and Brazil, where the expansion of these crops is causing the deforestation of the Amazon and the displacement of communities.

At the same time, a significant proportion of organic foods produced in Spain are also exported to other countries. From 2015 to 2020, exports of organic products increased by 49.74%, and by 91% when considering the period from 2012 to 2020 (MAPA, 2021b). The main organic products exported in 2020 were fresh vegetables and pulses (25% of total exports of plant origin); citrus fruits (19%); other fruits (11%); olive oil (15%); wine (7%); cereals and derivatives (6%); and canned vegetables (6%) (MAPA, 2021b).

The next section comprises a discussion of how these wider trends are also extending to agricultural cooperatives.

## AGRICULTURAL COOPERATIVES IN SPAIN

Spain is currently the second-placed country in Europe in terms of the number of agricultural cooperatives, after Italy, and the third in terms of members and employees (Vilches Varo, 2020). Cooperatives account for 26% of all food industry sales and almost two thirds of the value of Spain's final agricultural production (Agrodiario, 2022). Compared to 2006 values, by the end of 2021, the number of agricultural cooperatives had decreased by 8.8%, while their turnover had increased by 91% and their average size by 85% (Cooperativas Agroalimentarias, 2022b). Territorially, in Spain, its evolution has been very uneven. More than half of the 3,369 currently in existence are concentrated in Andalucía, Castilla La Mancha and Castilla y León, as these are the autonomous communities with the largest hectares under cultivation (Vilches Varo, 2020).

In 2020, almost 30% of cooperatives exported their produce, with the value generated representing 31.8% of the total cooperative sector's turnover. Of the 20 top exporter cooperatives in Spain, 14 export 69% or more of their members' produce, with five exporting over 90% and one exporting 100% of its produce (Cooperativas Agroalimentarias, 2021). These export activities come with a high environmental cost beyond transport emissions. Spain is home to the driest region in Europe, Almería, with the only true desert climate in the continent. This region is well known for its greenhouses and agricultural cooperative activity. When exporting fruit and vegetables to other countries, it is not only food that leaves the country but also large quantities of embedded water. Cooperatives in Almería have a strong export character; two examples are Anecoop and Mabe (both based in Almería), exporting over 90% and 100% of its produce respectively (Ajates, 2020a; Cooperativas Agroalimentarias, 2021). Still, cooperatives only accounted for 15% of the export turnover of the Spanish agri-food sector as a whole (excluding fisheries) (Cooperativas Agroalimentarias, 2021). However, the number of cooperatives with international activities is growing fast, with a significant increase of turnover in foreign markets between 2011 and 2020 of more than 82%.

Although there are large cooperatives in Spain, there are no Spanish cooperatives in the top ten in Europe in terms of turnover, with cooperatives in Germany, the Netherlands and Denmark standing out. In these countries, large cooperatives with higher efficiency ratios prevail, with some cooperatives reaching a turnover of more than ten billion euros, approximately ten times the turnover of the largest Spanish cooperatives (Vilches Varo, 2020). The rates of growth and the focus on turnover and exports suggest the co-optation of the agricultural cooperative model into globalised food system dynamics (Ajates, 2020b). As a result of pressures to remain competitive in the international market, agricultural cooperatives' pursuit of export markets and growth, even at the expense of losing members, is fuelling the consolidation with a trend for fewer and larger agricultural cooperatives composed of fewer but larger members (Ajates, 2020a). In an attempt to shape the Spanish agricultural cooperatives to resemble more the northern European model, the representative body, Cooperativas Agroalimentarias, and the government have been introducing measures and new legislation over the last decade to promote mergers and acquisitions (Ajates, 2020a). Their policies are working. Spanish cooperatives' average size grew by 65% from 2006 to 2020. The integration trend and concentration of power and trade continues; and in 2021, just 20% of cooperatives had a turnover of 80% of the total cooperative sector in the country (Cooperativas Agroalimentarias, 2021), creating a very fragmented picture in the sector.

Large cooperatives have emerged as single gatekeepers to thousands of farmers, becoming convenient entry points for agri-input corporations. For example, the recent Cooperativas Agroalimentarias congress was sponsored amongst others by chemical fertiliser and pesticides manufacturers such as Syngenta, Basf and FMC (Cooperativas Agroalimentarias, 2022a). These companies commonly establish close links with large cooperatives to test new varieties, pesticides and other inputs (Ajates Gonzalez, 2018).

Spanish agricultural cooperatives announced in their 2022 annual meeting a new cooperative brand, including a new logo that will help consumers differentiate their products. The brand will highlight “cooperative values such as union, cooperation for the common good, quality, sustainability and the fact that the benefits return to the farmers and stockbreeders themselves, thus contributing to the maintenance of the rural environment and the fight against depopulation” (Europa Press, 2022). This announcement raises questions around whether foods grown by cooperatives’ badly paid immigrant agricultural workers (not members) in intensive greenhouses, in water-depleted areas like Almería, and exported to faraway markets should carry the new logo.

This model of growth and exports has created a mismatch between cooperatives’ production and local demand, with cooperatives preferring a large buyer that purchases the whole harvest in one transaction, often too large a yield to be absorbed by the local area (Ajates Gonzalez, 2018). Nevertheless, despite having a strong agricultural cooperative sector, farmers are still being impacted by production cost increases and ever-rising energy prices, which triggered nationwide farmers’ protests in the country in spring 2022 (El País, 2022b).

Next, three types of alternative cooperative forms are introduced, with a discussion of how these might be able to better align their activities to more sustainable ways of producing and distributing food than the current dominant forms of cooperatives.

## WHAT TYPE OF COOPERATIVE MODELS CAN CONTRIBUTE TO RELOCALISING AGRICULTURAL AND CONSUMER COOPERATION FOR FOOD SECURITY?

Agricultural cooperatives in Spain have a variety of legal forms. Having diversity in organisational models, types of farmers and cultivated foods is key for food security and sustainability. In this section I introduce three types of alternative farming cooperative models and discuss their potential to contribute to food security: multi-stakeholder cooperatives, communal land use cooperatives and micro-cooperatives.

### **Multi-stakeholder Cooperatives**

Multi-stakeholder cooperatives (MSCs) are a relatively new form of cooperative that has been emerging over the last two decades in Europe and North America (Lund, 2012). Unlike conventional cooperatives with only one type of member, e.g. farmers, MSCs allow and bring together different types of members – often consumers and providers of services and goods, but sometimes also workers and buyers (Ajates, 2021). In Europe and Canada, MSCs have been growing strong in social services and the healthcare sector (Münkner, 2004). In the US, the movement for relocalisation of food production and consumption has found a useful organisational and legal tool in the MSC model (Lund, 2012).

Despite being a fairly recent development in their current form, historical records show that as early as the 1800s, pioneer cooperators in the UK soon realised the potential benefits and limitations associated with the possibility of merging different types of members into multi-stakeholder ventures (Reymond, 1964).

In Spain, MSCs started to appear over the last decade in response to the 2008 financial crisis. Scarce literature on Spanish MSCs exists; however, the available empirical evidence suggests that the introduction of different types of members seems to both complicate and enrich the cooperative mission, both theoretically and in practice (Ajates Gonzalez, 2017). I have published case studies from Spain and the UK elsewhere (Ajates Gonzalez, 2017; Ajates, 2021), and their focus on networks with other social movements reveals how MSCs are trying to change, rather than adapt to the market economies they struggle to survive in. The case studies I have presented in other publications show that MSCs in food and farming are striving to achieve more-than-economic benefits and are moving into the arena of the open and pro-commons economy and other global social movements (Ajates Gonzalez, 2017; Ajates, 2021).

### **Community Land Use Cooperatives**

Communal Land Use Cooperatives (CLUCs, or “cooperatives de explotación comunitaria de la tierra” in Spanish), are cooperatives that bring together holders of rights to enable them to use assets for agricultural purposes. The holders assign these rights to the cooperative and they may or may not work in the cooperative. The model also includes those who, without assigning any rights of use, will work in the cooperative, with the aim of managing a single agricultural enterprise or holding, which may also include the assets held by the cooperative (Torres Pérez, 2019). Their regulation seems to bring them closer to worker cooperatives, since the specific rules of the latter will apply subsidiarily. In fact, it is established that the number of salaried workers in CLUCs may not exceed 60% of the members.

CLUCs are not new. They grew in popularity after the early success of one of the first CLUCs set up in Spain in 1958 (Sanchez Hernandez, 1977). By the end of 1976, there were 350 registered CLUCs (Sanchez Hernandez, 1977). Their presence has continued over the decades, and in 2010 there were 425 CLUCs out of 3,514 agricultural cooperatives in the country. The data for recent years showed an evolution in their growing number, a trend that runs counter to that of first- and second-degree cooperatives (OSCAE, 2010). Despite not being dominant, it is the only type of farming cooperative showing small but continuous increases in numbers over the last two decades, with currently 479 officially registered (Cooperativas Agroalimentarias, 2021).

CLUCs are a convenient cooperative structure for farmers with small farms or for collective woodland management (Picos Martín, 2021). An example of this case is Monte Cabalar, which groups together approximately 3,600 properties of more than 1,000 owners in an extensive livestock farm with more than 700 hectares of closed woodland in the municipality of A Estrada, located in the north-west of the country. Its aim is to reduce the abandonment and smallholdings and to prevent forest fires. The community considered its options, and decided to legally constitute the CLUC in 2006 with more than 360 members, materialising a project of communal silvopastoral farming in a cooperative regime (Picos Martín, 2021).

The legal formulation of the CLUC allows for joint management without renouncing property titles. It is a legal instrument that provides an answer to many of the problems currently

facing the structuring of land ownership and territory in Spain. While smallholdings were the standard working unit in the past, now they can present problems, particularly for livestock and forestry, where, in order to improve costs, boost productivity and optimise investments, some communities see it as necessary to broaden their territorial base by managing abandoned land and farms (Alguacil Marí, 2020). The purpose of these cooperatives is to pool land or other means of production in order to create and manage a single agricultural enterprise or farm. The cooperative pays income to the members for the transfer of the use of the assets in proportion to the modules of participation of each member, or of the labour advances in the case of worker-members (Fernández Méndez and Puig Martínez, 2002).

In an earlier study of the role of cooperatives in rural tourism in Valencia, Fernández Méndez and Puig Martínez (2002) found that, in contrast to standard agricultural cooperatives, the legal form of cooperatives that had triggered the constitution of worker cooperatives or CLUCs had been born out of a common work project, and with the intention of creating stable jobs for their members, so that the activity of the cooperative became their main means of livelihood. The authors found that the enthusiasm of the people who believed in this type of enterprise had in many cases compensated for financial difficulties and in some cases for poor business planning (Fernández Méndez and Puig Martínez, 2002). Additionally, CLUCs enjoy tax benefits. The model also allows the inclusion of farms in the cooperative whose owners have retired and have stopped farming activities, which helps to avoid the abandonment of farms and their exclusion from the cooperative activity of the local area. CLUCs are promoted as Common Management Land Initiatives (IGC in Spanish) and as a successful strategic mechanism to tackle small farm abandonment rates and lack of generational replacement (Del Sánchez-Flor et al., 2021).

### **Micro-cooperatives**

Rather than a specific cooperative form in itself, micro-cooperatives allow the legal incorporation of cooperatives with only two people, reducing entry barriers and promoting the creation of new cooperatives. Since 2019, different Spanish autonomous communities (e.g., Balearic Islands and Aragón) have been introducing legislation for micro-cooperatives, i.e., worker cooperatives with a minimum of two associated people.

The purpose of the micro-cooperative law in regions such as the Balearic Islands, Navarra and Aragon is to regulate this type of cooperative, understood to be first-degree cooperative society, belonging to the class of worker cooperatives and CLUCs. Associated worker micro-cooperatives must be made up of a minimum of two and a maximum of ten worker-members employed on an indefinite basis, on a full-time or part-time basis, helping create stable jobs. In the case of the Balearic Islands, the regional government decided to pass a law on micro-cooperatives in consensus with the sector with the aim of promoting and encouraging the creation of micro-SMEs under the worker cooperative society and the CLUC models. The region sees these models as the basis for the future growth and development of the cooperative business fabric in the Islands, with a track of generating quality employment and making possible the profitability of small farms through economies of scale (El Mundo, 2018).

These initiatives seek to simplify the creation of small cooperatives, adapting to the current reality of their regions and enabling numerous groups of entrepreneurs to have the opportunity to start their activity through the social economy enterprise model. The new legislation has also reduced the administrative burden of registration. It is too early to report on the growth



and performance of micro-cooperatives; however, the model is expected to support new entries and small farms, and promote diversity in the sector.

## CONCLUSIONS AND POLICY RECOMMENDATIONS: HOW CAN COOPERATIVES CONTRIBUTE TO NATIONAL FOOD SECURITY AND SUSTAINABILITY?

Agricultural cooperatives are by and large the most important associative organisations in rural areas. They represent thousands of people, farmers and workers. Their importance and potential to support farmers and steer them towards more sustainable ways of producing food cannot be understated. A constructive and solidary-critical approach to cooperatives is needed (Favaro, 2017). While they enable thousands of farmers to continue farming, support rural livelihoods and tackle the acute issues of rural depopulation in Spain, the dominant trends for growth and exports in the cooperative sector clash with a need for shorter supply chains and food system sustainability in the context of the double burden of a worsening energy crisis and climate emergency. While Spain has developed over the decades a strong agricultural cooperative sector, the assumption that the country's presence enables food security is flawed. The data presented indicate increasing levels of food poverty in the country. At the same time, Spain continues to be a lead exporter of fruit and vegetables. On the one hand, many cooperatives rely on international markets to sell their produce and continue trading. On the other hand, a significant amount of embedded water and transport emissions are generated by this export model.

Food production is decoupled from national food security. Should cooperatives be blamed for levels of food insecurity? Achieving food security is a matter of tackling wider poverty issues and ensuring a decent income for every person. Nevertheless, the cooperative principles include care for the community and the environment. What can cooperatives, often considered a sign of a healthy and democratic farm and food system, do to support national food security? Following Mooney's proposal, instead of introducing policies to enable the growth of cooperatives to convert them into easy entry points to thousands of farmers, becoming handy bottlenecks for agricultural input corporations, and handy for the concentration of produce for international markets, farming cooperatives can be reclaimed as organisations that have the potential to legitimise and sustain class struggles, tackle power imbalances and improve workers' conditions (Mooney, 2004). They raise contradictions at different levels that uncover the flaws and conflicts of the current system: (1) in social relations, between production and consumption; (2) in spatial relations, between the local and the global; and (3) in collective action, between cooperatives as both traditional as well as new social movements. Delving into these tensions, the chapter has argued that diversity is a key term for food security, both in terms of cultivated diversity, as well as the diversity of growers and organisational types.

Particular attention has been paid to three less common types of cooperatives: multi-stakeholder cooperatives, CLUCs and micro-cooperatives. I have discussed how these types of cooperatives have the potential to contribute to food security. Their smaller size and embeddedness in their territory can help better match local production to local consumption needs and cultural preferences. Shorter supply chains can also help with affordability by reducing transport costs, as well as with food safety by reducing transportation time and riskier long supply chains. Thus, these cooperatives have a potential to preserve and promote diver-

sity of farmer profiles, farm and woodland holding structures, traditional local knowledge, cultivated and ecosystem diversity, organisational diversity, and diverse routes to market.

There are still many unanswered questions that point towards future research avenues, as multi-stakeholder cooperatives, CLUC and micro-cooperatives continue to be under-researched. What demographics do their members belong to? What is their degree of local embeddedness and is it sustained over time? How can agricultural cooperatives help to best match local food demands to cooperative production? How can public procurement support the regional absorption of cooperative produce?

Some wide-ranging policy recommendations also emerge from these reflections. In terms of food poverty, we need to move away from welfare capitalism and food banks, and towards living incomes for all. The methodology used to measure levels of food poverty should not use meat intake as a proxy for food security, due to the increasing levels of vegans, vegetarians and meat reducers, and also because people who can only afford to eat cheap processed meat should not be categorised as food secure.

In relation to agricultural subsidies, there is an urgent need to internalise the externalised energy and embedded water costs that allow international trade to continue operating without paying for the sober environmental impacts it causes. Agricultural cooperatives in their past trajectory were more aligned with national food security, but the current trend is moving away from a focus on people and national markets, to a focus on turnover and internationalisation. A re-alignment of regional food production and regional food demand could not only reduce travel emissions and loss of embedded water; it could also increase more circular food production, distribution and recycling, contributing to the creation of decent jobs, and thus to income and food security in Spain. Additionally, cooperatives have an enormous potential to promote the adoption of agroecological growing methods and locally adapted varieties amongst members to foster cultivated diversity, a key dimension of food security (Ajates, 2022).

From an international development policy perspective, these findings have global relevance, as cooperatives are often imposed as top-down development mechanisms in low- and middle-income countries, often with not positive results (Berthelot, 2012; Rhodes, 2012). Policy makers need to be aware that not all agricultural cooperatives are equal, and that different models and sizes result in different socio-economic and environmental scenarios.

In summary, the chapter has presented evidence of how a strong agricultural cooperative sector in a country is not directly related to national food security. Cooperative sizes that are in balance with regional needs, and models that encourage cooperation between producer and consumer groups, should be prioritised to ensure the needs of both groups are heard and integrated. Policy makers should consider whether current and new policies designed to promote food security do so, taking into account two perspectives: a production or consumption perspective around food availability and affordability, and a national or international perspective, considering the social and ecological impacts of each policy choice.

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