

# ASSESSING FARMERS' OBJECTIVES TO PARTICIPATE IN SHORT FOOD SUPPLY CHAINS IN SPAIN, FRANCE AND MOROCCO

## ABSTRACT

The promotion of Short Food Supply Chains (SFSC) is an issue that is becoming more relevant to both the public and research agenda, aiming to build more sustainable agri-food supply chains and empower smallholder farmers. This research aims to determine the willingness of small farmers to adopt SFSCs as an alternative to conventional distribution. The Analytical Hierarchy Process (AHP) methodology was used to assess farmers' objectives of their agricultural activity in Spain, France and Morocco. For the selection of objectives, deep interviews (DI) and a literature review were carried out. Data were collected from a total of 180 farmers carried out between May and October 2022. Results showed that regardless of the stated interest of farmers in promoting SFSCs, the production-related objectives, especially "Increase productivity" and "Invest in knowledge and machinery", received the highest priority to distribution-related objectives. Moreover, objectives concerning social responsibility received the lowest relative importance, while the environmental preservation concerns outweighed social objectives (especially in the French case). The economic performance of the farm plays a decisive role in the farmers' decision-making as expected in the three case of study analyzed. This is important when exploring mechanisms to incentivize farmers to adopt SFSCs where economic sustainability and efficiency are needed. More research is needed to determine the relationship between the choice of supply chain alternatives and the objectives of the farming activity. This knowledge may help in providing alternatives and adapted solutions that are more sustainable regarding to farmer's preferences.

Keywords: Short Food Supply Chain, Farmers, Sustainability.

## 1. Introduction

The agri-food sector in the Mediterranean countries faces major challenges such as small farmers' access to the market, food security, the conservation of local production systems, climate change adaptation and sustainability. In this sense, the United Nations includes the Short Food Supply Chains (SFSCs) as a strategy within the Sustainable Development Goals, pointing out their potential to increase the sustainability of value chains and empower smallholders (UNIDO, 2020). Farmers' willingness to adopt the SFSCs is tightly related to the product type, the market volume, the associated costs and the relationship with stakeholders, as well as the objectives that farmers consider the backbone of their activity. Thus, drivers such as economic efficiency, product quality, distribution optimization and social and environmental sustainability can be determining for the participation in SFSCs.

## 2. Literature Review

The discussion around the shortening of agri-food supply chains has intensified in the last two decades, as noted by Stella et al. (2022). Some authors have identified economic

advantages in the adoption of SFSCs, such as a higher price perceived by farmers through the elimination of intermediaries and greater bargaining power (Demartini et al., 2017). Other authors have pointed out the awareness of consumers and farmers on the social and environmental externalities of supply chains (Sonnino and Marsden, 2022) and peer-to-peer interaction with the community (Charatsari et al., 2018) as main drivers of farmer's willingness to participate in SFSCs. In turn, high associated costs or regulatory barriers may be a disincentive for this business model (Ochoa et al., 2020). In this context, it is necessary to study to what extent the main objectives of farmers are related to their capacity and willingness to adopt SFSCs.

### **3. Hypotheses/Objectives**

The main objective of this research is to determine the relative importance that various factors have on farmers' decision-making process, seeking to understand which objectives are considered a priority at the farm level. This allows us to understand how they value economic, social and environmental criteria when developing their business. Understanding how farmers perceive the optimization of production and distribution and the fairness of the selling price is an essential indicator to determine to what extent they are concerned participating in Short Food Supply Chains.

### **4. Research Design/Methodology**

On the basis of in-depth interviews (DI), the main problems of farming businesses were identified and the most important objectives that farmers have for their activity were selected. To understand the willingness to participate in the SFSCs and to know the objectives of the farmers, a sample of 180 farmers' surveys was collected in Spain, France and Morocco. The Analytical Hierarchy Process (AHP) method was used as a multi-criteria decision-supporting technique (Saaty, 2007) to estimate the relative importance of 5 main objectives of the farming activity identified in the DI and literature review: A) Increase economic efficiency, B) Improve production quality, C) Optimize distribution, D) Contribute to social responsibility and E) Environmental preservation objectives. Each main objective was decomposed into 3 secondary objectives, resulting in a set of 15 farming activity objectives. The global level weights of each objective were obtained by multiplying the local aggregated level weights of the main categories.

### **5. Data/Model Analysis**

Results showed a widespread interest of farmers in the participation of SFSC where 90% of farmers interviewed in the 3 countries would support this supply chain model when were directly asked. However, when it comes to analyzing the business objectives, the AHP results (Appendix 1) showed that economic objectives are set as priorities: improving productivity in Spain, increasing the selling price in France and investing in technology and machinery in Morocco. On the other hand, objectives related to the optimization of distribution and social responsibility within the production region are listed in last place for all three countries. Environmental objectives, related to improving the sustainability of the farm received higher consideration after the economic factors, particularly in France. The soil fertility and rational use of water were apparently the most important features.

## 6. Limitations

The main limitation of this study is firstly based on the sample size of farmers. The results are conditioned by the profile of the farmers who responded, both in terms of farm size, attitudes, type of product and distribution channels currently used. Further analysis should determine how the different farmer profiles and products influence the prioritization of business objectives, and whether this is a critical element in their decision making. This will allow us to develop a business model showing the capacity and suitability of pursuing SFSCs.

## 7. Conclusions

According to our research, economic factors play a decisive role in farmers' decision-making. Farmers' priorities in the regions studied were higher farm profitability and higher farming investment in technology and machinery. At the same time, optimizing distribution, whether selling directly to the consumer or minimizing distribution costs, does not seem to be a relevant factor, which enters in conflict with their stated support for SFSCs for their business. Therefore, it is important to analyze the gap between farmers' interests and actual behaviour ("attitude-behaviour gap"). In this context, the promotion of SFSCs needs to ensure economic sustainability to make it a desirable and feasible option for small-scale producers.

## 8. Key References

- Charatsari, C., Kitsios, F., Stafyla, A., Aidonis, D., & Lioutas, E. (2018). Antecedents of farmers' willingness to participate in short food supply chains. *British Food Journal*, 120(10), 2317–2333. <https://doi.org/10.1108/BFJ-09-2017-0537/FULL/PDF>
- Demartini, E., Gaviglio, A., & Pirani, A. (2017). Farmers' motivation and perceived effects of participating in short food supply chains: Evidence from a North Italian survey. *Agricultural Economics*, 63(5), 204–216. <https://doi.org/10.17221/323/2015-AGRICECON>.
- Ochoa, C.Y., Ruiz, A. M., Olmo, R. M., Figueroa, Á. M., & Rodríguez, A. T. (2020). Peri-urban organic agriculture and short food supply chains as drivers for strengthening city/region food systems—Two case studies in Andalucía, Spain. *Land*, 9(177), 1–20. <https://doi.org/10.3390/LAND9060177>.
- Saaty, T.L., & Peniwati, K. (2007). Group decision-making: Drawing out and reconciling differences. Pittsburgh, PA: RWS Publications.
- Sonnino R., Marsden T. (2006). Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe. *Journal of Economic Geography*, 6(2), pp.181-199. <https://doi.org/10.1093/jeg/lbi006>.
- Stella Evola, R., Peira, G., Varese, E., Bonadonna, A. & Vesce, E. (2022). Short Food Supply Chains in Europe: Scientific Research Directions. *Sustainability*, 14(6), 3602–. <https://doi.org/10.3390/su14063602>.
- UNIDO (2020). *Short Supply Chains for promoting local food on local markets* <https://suster.org/wp-content/uploads/2020/06/SHORT-FOOD-SUPPLY-CHAINS.pdf>.

## 9. Appendices

**Acknowledgements:** This study belongs to the project Lab4Supply “Multi-agent Agri-food living labs for new supply chain Mediterranean systems. Towards more sustainable and competitive

farming addressing consumers' preferences and market changes". Lab4supply received funding from the European Union under PRIMA-S.2 programme (Partnership for Research and Innovation in the Mediterranean Area) and approved by the National Agencies in Spain "Agencia Estatal de Investigación (AEI)", in Morocco "Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation (MESRSFC)" and in France "Agence Nationale de la Recherche (ANR)". The content of this study reflects only the author's view and the European Union Agency and national agencies involved are not responsible for any use that may be made of the information it contains.

### Appendix 1: AHP results of the different criteria evaluated

