

Sustainable Models of Agri-food Supply Chain Offering Fair Prices to Consumers and Reasonable Profit to Producers

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Related literature

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01

Introduction

Agri-food supply chains (AFSC) are at a turning point. Urbanization has separated consumers from producers, industrialisation has increased agricultural production, and globalization has internationalised value chains (Russo, 2020). In this scenario, AFSCs face several challenges: maintenance of local production systems, adaptation to climate change, market access for small farmers, and food security (Miranda et al., 2021). The top goals for research institutions and governmental organizations must be **increasing the sustainability of AFSCs and empowering small-scale farmers.**

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Objectives

Main goal: promoting the sustainability of Mediterranean AFSCs using a comprehensive approach.

Objective 1.
Develop a comprehensive methodology for understanding and linking the preferences of all stakeholders involved in the AFSC.

Objective 2.
Understand farmers' willingness to adopt Short Food Supply Chains (SFSCs) as an alternative to optimise their economic, social, and environmental sustainability.

Objective 3.
Determine consumer acceptance and willingness to pay for locally produced and SFSC products.

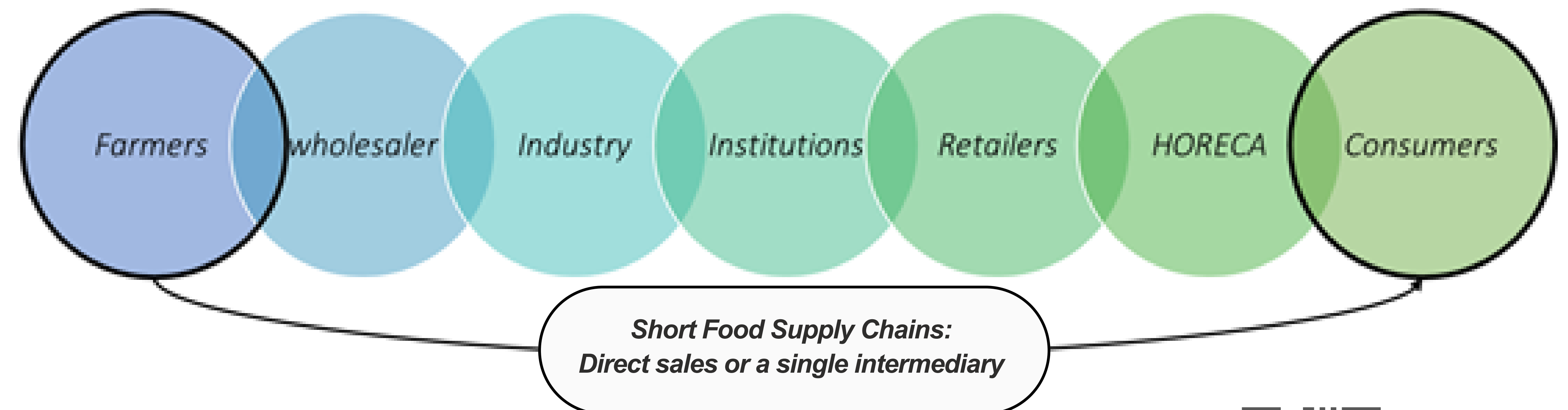
Objective 4.
Implement and evaluate the Living Lab as a means of encouraging stakeholder collaboration and enhancing AFSCs.

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Methodology

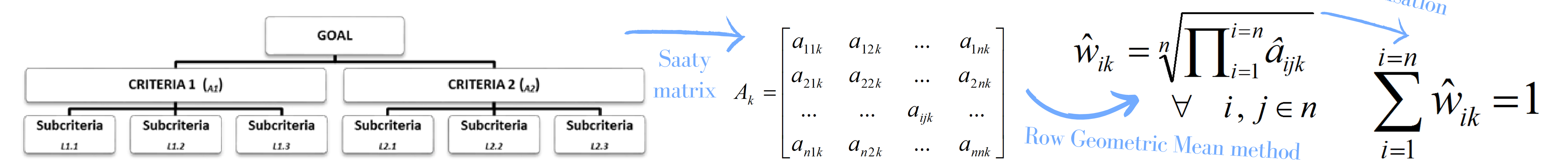
Article 1: Agri-food Supply Chain aggregated analysis (Objective 1)

Responding to the research gap (Tsolakis et al. 2014), this study employs an integrated methodology for optimising the AFSC, based on the identification and interrelation of stakeholder preferences.



Data source: exploratory market survey (S1) including consumers, farmers, retailers, restaurants, and industries (Spain, France, and Morocco) in the framework of LAB4SUPPLY project.

Methodology: Analytic Hierarchic Process (AHP) (Saaty, 2005) as a multi-criteria decision-making analysis:



Article 2: More sustainable marketing options for farmers (Objective 2)

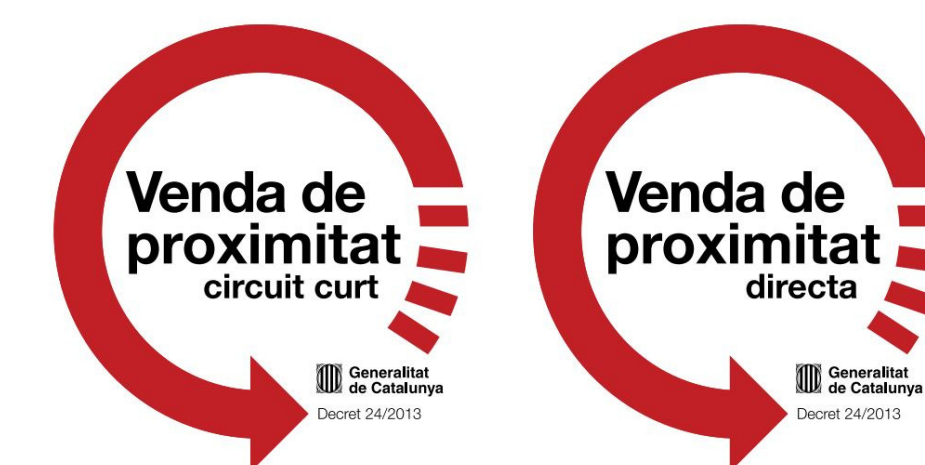
AFSC sustainability assessment using SAFA indicators (Scialabba et al., 2014) Explaining farmer's choice of distribution channels using the Fractional Multinomial Logit model (Papke & Wooldridge, 1996)

$$E(q_{ij}|x_i) = G_j(x_i; \beta_j) = \frac{\exp(x_i \beta_j)}{\sum_j \exp(x_i \beta_j)}$$

The FMLM allows modeling percentage responses that fall between 0 and 1 on a continuous scale!

Article 3: Consumer acceptance and willingness to pay for SFSC products (Objective 3)

Choice Experiment: non-hypothetical analysis of consumer preferences (Fig jam)
Treatments: 1) distance (short distance – long distance)
2) number of intermediaries (direct purchasing – one intermediary)
3) "Venda de Proximitat" label issued by the Generalitat de Catalunya



Final report: Implementation and evaluation of the Living Lab (Objective 4)

The LL is a user-centered, open innovation ecosystem based on co-creation (Gamache et al., 2020) It will test improved and more sustainable value chains with greater consumer acceptance.

Implementation plan (Nederlof et al., 2011) in two real-life case studies Living Labs:

- 1) Scoping - A context analysis from the exploratory market analysis S1 (O1), the AFSC sustainability assessment (O2) and consumer study (O3)
- 2) Stakeholder Mapping - Priorisation using the AHP methodology
- 3) Planning - Focus Groups and workshops

