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Las orientaciones de valor utilitarias y no utilitarias modulan consumo y producción en iniciativas agroecológicas

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Resumen

En este artículo analizamos el papel que desempeñan las orientaciones de valor utilitarias y no utilitarias a la hora de condicionar la participación de productores y consumidores en los ámbitos de acción agroecológica en España. Para ello, distribuimos una encuesta basada en el método Q, compuesta por 25 afirmaciones (22 ítems y tres fotografías de paisajes), entre 39 actores del ámbito agroecológico. Planteamos la hipótesis de que las orientaciones de valores utilitarias y orientadas al beneficio motivarían la participación de los productores en estas redes en mayor medida que la de los consumidores, quienes, según supusimos, tendrían puntos de vista más altruistas y no utilitarios. Mediante un análisis factorial de las puntuaciones de las afirmaciones, identificamos cuatro factores que explican el 68 % de la varianza entre las respuestas individuales. Sostenemos que, basándonos en las definiciones teóricas de estos conceptos, dos de estos factores describen orientaciones de valor no utilitarias, mientras que los otros dos describen motivaciones más utilitarias. Descubrimos que las perspectivas individuales de los productores y los consumidores no se ajustaban perfectamente a las orientaciones de valor dicotómicas que esperábamos, lo que nos proporcionó una visión teórica de las motivaciones profundas de los consumidores para participar en redes comerciales agroecológicas voluntarias, así como de la viabilidad financiera de estos circuitos para los productores y la sostenibilidad socioecológica general de estas iniciativas de transición agroecológica. En el futuro, esperamos desarrollar un modelo formal basado en este estudio, validado empíricamente, de las perspectivas de las partes interesadas, que nos ayude a comprender el potencial de las iniciativas agroecológicas para la transición ecológica, partiendo de una iteración continua de los incentivos que estructuran estos ámbitos de actuación.

Marcos culturales y de orientación de valor de la agroecología: Utilitarista frente a no-utilitarista e individualista frente a comunitario

	Comunitario	Individualista
No-utilitario	Factor 1. La agroecología es un movimiento social basado en la confianza entre las personas. La viabilidad económica es secundaria frente a la sostenibilidad ecológica. La agroecología es beneficiosa tanto para las comunidades como para el medio ambiente.	Factor 3. Ética agroecológica/escepticismo. La agroecología puede ser mejor para el medio ambiente y la sostenibilidad, pero es un ideal inalcanzable. La producción a gran escala necesaria para alimentar a la población mundial solo puede lograrse mediante los sistemas agroalimentarios convencionales.
Utilitario	Factor 2. Pragmático agroecológico. Algunas prácticas agroecológicas son beneficiosas para la sociedad, pero no todas son viables. Predomina el enfoque técnico de la agroecología.	Factor 4. La agroecología como elección y beneficio personal.

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Utilitarian and non-utilitarian value orientations animate consumer and producer participation in agroecological initiatives

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Abstract

In this article we examine the role played by utilitarian and non-utilitarian value orientations in conditioning producer and consumer participation in agroecological action arenas in Spain. To do so we distributed a 25 statement Q-method (22 items and three landscape photographs) survey amongst 39 agroecological stakeholders. We hypothesized that utilitarian, profit-seeking value orientations would motivate producer participation in these networks to a greater extent than consumers whom, we assumed, would hold more altruistic, non-utilitarian views. Through a factorial analysis of statement scores we identified four factors explaining 68% of the variance amongst individual responses. Two of these factors we argue, based on theoretical definitions of these concepts, describe non-utilitarian value orientations whereas the other two describe more utilitarian motivations. We found that individual producer and consumer perspectives did not align neatly with the dichotomic value orientations we expected providing theoretical insights into the deep motivations of consumers for participating in voluntary agroecological commercial networks, the financial viability of these circuits for producers and the overall socioecological sustainability of these agroecological transition initiatives. In the future we hope to build a formal model based on this empirically validated study of stakeholder perspectives to help us understand the potential of agroecological initiatives for the ecological transition based on continued iteration of the incentives structuring these action arenas.

Keywords

Resilience; Agroecology; Coupled Human and Natural Systems; Food Systems, Non-utilitarian

Sustainable Development Goals

SDG 3: Good health and well-being; SDG 4: Quality education; SDG 10: Reduced inequalities, SDG 11: Sustainable cities and communities, SDG 12: Responsible consumption and production.

1. Introduction: Agroecology as a Coupled Human and Natural System

Agroecological transition initiatives have emerged over the last century in response to social concerns over the impact of the current global agri-food model on biodiversity, ecosystem health, water demand, soil and aquifer contamination and soil erosion amongst others (Foley et al., 2011; Tilman et al., 2011). Agroecological initiatives present alternatives for agri-food production and supply both in developed and developing countries and provide an opportunity to transform global agri-food systems in a more sustainable direction (Altieri, 1989; Altieri & Nicholls, 2020; Bezner Kerr et al., 2021; Boeraeve et al., 2020; Gliessman, 2015; López-García et al., 2021). We define agroecological transitions as those experiences that, based on ecological science, develop food production and distribution systems that mitigate or adapt agri-food systems to current environmental challenges such as climate change, biodiversity loss and soil degradation while bridging the social dimensions leading to the emergence of resilient food provision (HLPE, 2019). Indeed, researchers have argued that in some cases these initiatives not

only can efficiently provide goods and services but also enhance social and community resilience (Altieri et al., 2021; Kpienbaareh et al., 2024). Participatory processes and discussion on farming, including at the household level, are closely linked to the success of agroecological systems (Bezner Kerr et al., 2019). Agroecology is constituted by projects that explicitly seek to create diverse and democratic forms of production and distribution, produce safe, high-quality food, and incorporate social justice and environmental sustainability to their production models (Busch et al., 2013; Hatanaka, 2014; Konefal & Hatanaka, 2010).

In Spain, agroecology has been promoted in recent decades as an alternative to the prevailing "corporate food system" or "big retail model" based agricultural production system (Sanz-Cañada & Yacamán-Ochoa, 2022). In the process a variety of production and consumption groups have emerged identifying themselves as agroecological food networks (Sanz-Cañada et al., 2023). In this study we focus on the motivation of producers and consumers in Spain for participating in agroecological action arenas with the goal of identifying some of the factors that may lead these initiatives to thrive or decline thus contributing to an overall evaluation of their future prospects as a viable strategic pathway to the ecological transition in the agri-food sector in locations where the "corporate food system" of agricultural production model is prevalent. Action arenas are here defined sensu Ostrom as, "participants in positions choosing among actions at particular stages of a decision process in light of their control over a choice node, the information they have, the outcomes that are likely, and the benefits and costs they perceive for those outcomes" (Ostrom, 2006). For the purpose of analyzing agroecological transitions holistically we employ the Coupled Human and Natural Systems (CHANS) analytical framework (Liu et al., 2007, 2016). CHANS science adopts a comprehensive approach to incorporate the interconnections, feedbacks, and dynamics between human and natural systems, both within and across different scales (Liu et al., 2021). The meta-coupling concept as used in this framework is particularly useful for understanding the interdependence of food chains between distant urban and rural CHANS and the kind of social networks that connect rural agroecological producers with willing urban consumers (De Lucio & Seijo, 2023). Meta-coupling is defined in the context of the CHANS analytical framework as complex feedback loops between adjacent systems and distant systems (Liu et al., 2019). Some works (De Lucio & Seijo, 2023) suggest that agroecological production may result in a type of meta-coupling between consumer and producer networks that differs from that associated with current globalized, large-scale agri-food production and distribution systems; enabling cooperative behavior between consumers and producers participating in them.

1.1. Landscape and community resilience as theoretical criteria for evaluating agroecological CHANS sustainability

From a normative point of view, agroecological initiatives need to enhance baseline resilience of CHANS from both a community and landscape perspective to be considered "sustainable" (Altieri & Nicholls, 2020; de Lucio & Seijo, 2021). Community resilience is understood as the capacity of a human community to adapt to and respond to system level socio-ecological change (de Lucio & Seijo, 2021; Sansilvestri et al., 2022) (see also supplementary material). The following attributes of community resilience have been identified in the specialized literature: local community knowledge, community networks, communication among participants, governance, natural resources, financial capacity, and mental disposition (De Lucio & Seijo, 2023). Community resilience principles are closely connected to the so-called critical 'domains of transformation' (Anderson et al., 2019) and the key drivers of scaling local agroecological initiatives within the broader agri-food system level (Mier y Terán Giménez Cacho et al., 2018).

Ecological resilience can be defined as the probability that a given ecosystem's processes and structures can withstand change before shifting to a new regime or alternative steady state (Holling, 1973). Applying resilience theory to agroecosystems includes considering productive functions, sources of system regulation and disturbance, and cross-scale interactions (Peterson et al., 2018). Cultural drivers of change must also be taken into consideration when assessing landscape or ecological resilience (Seijo et al., 2023). Therefore, CHANS resilience comprises the interactions of the natural subsystem with the human subsystem (Cumming et al., 2013; Turner et al., 2013; Wu, 2013). In our case, we apply the concept of landscape resilience to emphasize the territorial/spatial meta-coupling component of agri-food systems, indicating the capacity of a territory to maintain landscape structure and function in the face of both natural and human system change. Table 1 shows the principles of agroecological practices that contribute to the biophysical resilience of agricultural landscapes. For this purpose, we take into consideration agroecological (Peterson et al., 2018) and landscape (Cabell & Oelofse, 2012; Tittonell, 2020) resilience principles in connection to the agroecological performance criteria emerging from the consensus of the FAO High Level Panel of Experts on Food Security and Nutrition that contemplates 13 consolidated agroecological principles (HLPE, 2019; Mottet et al., 2020; Wezel et al., 2020).

Table 1. Principles of landscape resilience in agroecology.

Category	elements
1.- Agrodiversity	1.1. Agrodiversity: Polyculture: woody plants. Perennial crops and/or agroforestry. 1.2. Crop rotation, polycultures, and intercropping. 1.3. Agrosilvopastoral integration (Agroforestry, Silvopastoralism, Agrosilvopastoralism), use of wild species. 1.4. Seeds of resistant and adapted varieties, variety of domestic herbivores: species and breeds.
2.- Technology Control	2.1. Exclusion of nanoparticles, ionizing radiation, GMOs, etc. 2.2. Control of technology: Appropriate technology.
3.- Pest control and of adventitious vegetation	3.1. Biological pest management.
4.- Harvest and post-harvest	4.1. Proximity, freshness and seasonal product.
5.- Soil life care	5.1. Cover crops, green manure, minimum tillage 5.2. Soil fertilization: Fertilization: manure, compost. Amendments, non-synthetic fertilizers. 5.3. Soil quality care and nutrient cycling.
6.- Animal care and welfare	6.1. Feeding. 6.2. Housing, animal husbandry practices, stabling. 6.3. Appropriate stocking rate, free-range and rotational grazing. 6.4. Animal health care. 6.5. Avoidance of GMO's, antibiotics and growth hormones.
7.- Efficient use of matter and energy, circularity	7.1. Reduce water consumption 7.2. Reduce energy consumption. Renewable energy 7.3. Reintegration of organic wastes

	7.4. Efficient Co2 sequestration in soil and vegetation 7.5. Minimization of external and distant inputs and avoidance of energy, water and nutrient losses 7.6. Recycling of materials
8.- Pollution prevention	8.1. Pest and disease management without agrochemicals. 8.2. Avoidance of nearby sources of contamination
9.- Ecosystemic synergies: Biodiversity	9.1. Wildlife care. 9.2. Management based on respect for ecosystem dynamics, promoting positive interactions between soil, plant, insect and other elements of biodiversity, stimulating the presence of pollinators, biological control. 9.3. Grazing 9.4. Riparian vegetation 9.5. Biodiversity conservation cover 9.6. Heterogeneity of natural habitats, connectivity and integration with the surrounding landscape 9.7. Biodiversity of grasslands and pastures.
10.- Sustainability of production	10.1. Traditional agrosystems 10.2. Agricultural and forestry production

1.2. The role of utilitarian and non-utilitarian value orientations in conditioning CHANS community and landscape resilience

The purpose of this study was to explore the value orientations of producers and consumers involved in agroecological action arenas. Here we work under the theoretical assumption that individuals in agroecological production and consumption may manifest a diverse set of motivations to participate in these networks that can be defined theoretically as utilitarian or non-utilitarian value orientations (Lejano & Fernandez de Castro, 2014). The model of utility has been proposed to explain individual economic decision-making on the understanding that people act with a criterion of "utility maximization" (Smelser & Baltes, 2001 vol. 11). However, scholars working within the common pool resource paradigm have theorized that collective action can arise from other motivations such as "respect for others, tradition, empathy and others that do not translate into individual rationality." (Lejano & Fernandez de Castro, 2014). As Ostrom suggested, "…if the situation is a social dilemma rather than an open competitive process, I would urge the analyst to…[assume] that participants hold multiple value orientations and use strategies ranging from those used by rational egoists to those used by players who value trust, reciprocity, and equity very highly" (Ostrom, 2009). Agroecological supply networks abound in what, intuitively, may constitute non-utilitarian behaviors. To account for these anomalies in the utility model the concept of relational values has been introduced to highlight biodiversity conservation values that are excluded from traditional valuation systems for environmental services (IPBES, 2022). Such a concept serves to introduce the value of the relationship that subjects establish with valuable objects in a given context of individual and community relational experience (Britto dos Santos & Gould, 2018; Chan et al., 2018; Chan et al., 2016).

Based on this ongoing theoretical debate, we hypothesized that utilitarian and non-utilitarian value orientations would animate producer and consumer participation in agroecological networks. We expected agroecological producers to exhibit utilitarian value orientations to a greater extent than agroecological consumers due to their financial dependence on the success of

these initiatives for their individual welfare. Conversely, the voluntary character of participation by agroecological consumers in these initiatives would represent a more non-utilitarian approach to this action arena based on ethical or moral emotions or (Huebner et al., 2009). We based our hypothesis in previous work on agroecological initiatives (De Lucio & Seijo, 2023) that examined the lack of market competitiveness of agroecological production due to its higher prices and governance obstacles related to subsidy dependence and stricter governmental regulations. To test this hypothesis we used Q analysis, a semi-quantitative methodology for the systematic study of subjectivity. Q methodology has been applied successfully by environmental psychologists and social scientists to the study of environmental (Phelps et al., 2021; Seijo et al., 2023; Webler et al., 2009; Zabala et al., 2018) and landscape conservation issues (Benayas et al., 1987; Pitt & Zube, 1979; Seijo et al., 2023; Zube et al., 1983).

2. Methodology

To identify the criteria that could be used to explore our hypothesis regarding the CHANS dynamics of agroecological circuits we based ourselves on the principles of community and landscape resilience described above. Based on these principles, a group of agroecological experts were asked by the authors to define the appropriateness of the items or statements designed by the authors to reflect the meaning of each of the community and landscape resilience principles in the affirmative or negative sense (De Lucio et al., 2024). First, a content analysis was conducted on various certification systems and evaluation criteria for agroecological production based on consensus documents: *Tool for Agroecology Performance Evaluation (TAPE)* (FAO, 2019); *IFOAM Regulations* (IFOAM, 2017); and the *EU Regulation on Organic Farming* (Regulation (EU) No. 2018/848 of the European Parliament and Council, dated May 30, 2018, concerning organic production and labeling of organic products). A total of 61 indicators related to community and landscape resilience were obtained from this review of the consensus documents. To construct the final questionnaire, a list of statements was developed proxying these indicator criteria. The criteria were evaluated by staff from the Fundación Vida Sostenible, who have experience in education and communication around food systems.

Fig 1. Landscape pictures of statements 23, 24, 25.

As a result, 22 sentences or possible criteria of choice were finally selected for the questionnaire. Additionally, three landscape photographs were obtained that, in the opinion of the advisory group, depicted clearly differentiated agricultural practices ranging from the purely agroecological to the conventional (Figure 1). These photographs were meant to represent stakeholder valuations of agri-food landscape resilience. The deployed questionnaire is shown in Table 2.

Table 2.- Statements of the agri-food preferences questionnaire.

1	Agroecology is a socioecological movement that aims to make human and natural welfare compatible.
2	Agroecology should not be an initiative of public administrations.
3	Food supply and availability should be a collective choice where fair payment and care for the environment are paramount.
4	Traditional practices and knowledge should not be a relevant factor in an efficient food production and processing system.

5	Personal contact and trust between producers and consumers are important in food production and distribution.
6	Public administration authorities do not listen to or take into account the opinion and needs of producers.
7	Public administration authorities do not listen to or take into account the opinion and needs of consumers.
8	Agreements, commitments and shared decision-making are key components for sustainable agriculture.
9	Markets should determine the environmental, economic and social sustainability of agricultural systems.
10	Organic certification favors the production of food that is beneficial both for people and the environment.
11	Agroecology projects are more profitable than conventional agricultural projects from a commercial point of view.
12	Organic and agroecological products are more expensive.
13	Producers and consumers committed to agroecology projects favor the sustainability of a rural communities and agriculture.
14	Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically.
15	Genetically modified organisms (GMOs) are beneficial for agricultural systems.
16	Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture.
17	Local and seasonal products are always preferable.
18	Soil fertilization should be carried out without synthetic fertilizers.
19	Domestic animals should have easy access to the open air, and be raised without pharmaceutical additives (antibiotics, hormones, etc.) except for curative purposes; even if this means less profitability for the producer.
20	Agriculture should reuse all organic matter as much as possible, promoting a circular economy, even if this is less profitable for producers and consumers.
21	The agricultural sector should take care of wildlife by maintaining stands of natural vegetation and favoring the presence of wildlife.
22	Agriculture should favor the conservation of landscapes and traditional culture.
23	Landscape 1. Intensive agriculture. Simple mosaic.
24	Landscape 2. Traditional agriculture in terraces. Complex mosaic.
25	Landscape 3. Polyculture. Complex system of high biodiversity and ecological practice.

Q analysis methods is one of the most rigorous approaches available in environmental studies for revealing stakeholder preferences on conservation and sustainable food value chains issues (Finizola E Silva et al., 2024; Webler et al., 2009; Zabala et al., 2018). We deployed our study in two stages. In the first, stakeholders were asked to rank the statements (Table 2). In a second stage, the numerical ratings by stakeholders of the Q statements were analyzed using multivariate data reduction techniques focused on correlations between stakeholder responses (Phelps et al., 2021). Here we used an R based online interface tool designed specifically for this analysis (Banasick, 2023; Zabala et al., 2018).

The emphasis in Q methods is on disclosing shared views amongst respondents which may be used to define underlying cultural frames (Phelps et al., 2021; Seijo et al., 2023). A cultural frame can be defined as, “schemata of interpretation”, that enable individuals, “to locate, perceive, identify, and label occurrences within their life space and the world at large. By rendering events or occurrences meaningful, frames function to organize experience and guide

action, whether individual or collective" (Snow et al., 1986 p 464). Since the sampling is purposive, sample sizes tend to be small, and are therefore not intended to be representative of individuals' specific demographic or occupational group (Phelps et al., 2021). In other words, the preferences identified through this study, for instance, amongst producer and consumer stakeholders, are not intended to be representative of the viewpoints of these entire social groups. Instead, we focused on the underlying cultural frames conditioning individual value orientations in this specific agroecological network or action arena. As previously mentioned, the Q sample was implemented in two stages designed to accommodate our specific research goals and needs (Webler et al., 2009).

Stakeholders were asked to sort the 25 Q statements into a participant response grid in a scale going from + 3 (Strongly agree) to − 3 (Strongly disagree). Once this initial classification had been made respondents were forced to distribute their initial responses within the slots available for each numerical ranking in the grid. Three of the Q statements were landscape photographs of agricultural fields with different management approaches. We hypothesized that Landscape 23 an intensively managed monocultural field would be selected by individuals less committed to the agroecological model while Landscape 25 would represent a polyculture managed field more presentative of the agroecological model. Landscape 24 finally depicted a patchy landscape in a mountainous slope representing a traditional model of agricultural management.

We surveyed and interviewed 39 producers and consumers with different levels of participation in agroecological circuits: consumer groups, cooperative supermarkets, non-certified producers and certified organic producers. A snowball sampling approach was used, where participants in a study refer others (Naderifar et al., 2017). We obtained a group of people interconnected by agroecological production and consumption relationships with the purpose of verifying whether participating in similar experiences had the same motivations.

Stakeholder respondents were of different age groups, had different management responsibilities, educational backgrounds and gender. We then selected conventional consumers and producers (not involved in agroecological circuits) assuming that their responses would differ significantly from those of agroecological participants and help us further define what makes the cultural frames of agroecological participants in these networks or action arenas unique.

3. Results

3.1. Factorial analysis of the Q sort responses

As mentioned, we obtained 39 responses to our questionnaire. We classified respondents into five different categories according to how producers and consumers defined themselves. Agroecological consumers described themselves as assiduous buyers of agroecological products and active participants in agroecological circuits. Conventional consumers on the other hand see themselves as consumers of conventionally produced agricultural commodities bought in medium sized and large retail chains. In contradistinction to conventional agri-food producers, agroecological producers view themselves, as strict practitioners of organic farming methods resulting in the production of agricultural commodities destined exclusively for consumption in agroecological circuits whereas conventional producers defined themselves as producers of commodities to be sold on to wholesale brokers working within commercial agricultural circuits. A final group of respondents defined themselves as organic production certifiers

meaning that their role in agroecological circuits consisted in supervising or inspecting agroecological farms to make sure they complied with certification criteria. The final sample and number of respondents and their respective categories are described in Table 3.

Table 3.- Sample description.

Group /code	Male	female	Total
Agroecological consumer /CAg	2	8	10
Conventional consumer/ CCo	3	7	10
Agroecological producer/ PAg	2	4	6
Conventional producer/ PCo	4	0	4
Organic production certifiers/Se	7	2	9
TOTAL	18	21	39

Tables 4 and 5 show the main results of the factorial analysis. Additional information of the multivariate analysis is attached as supplementary material. We selected a 4-factor analysis of statement responses based on the standard criteria identified in the literature of "simplicity, clarity, distinction and stability" (Webler et al., 2009). Regarding "simplicity", the 4 selected factors explained the greatest percentage of variance (68%) with the least number of factors . In terms of "clarity", the factor which each respondent valued most highly all loaded over 0.47. As to "distinction" low correlation values emerged between the 4 factors though Factors 1 and 3 correlated at a relatively high 0.76. This suggests a great similarity between the viewpoints of respondents aligning with both factors. Finally, we found that with a 4-factor analysis the stakeholder categories described in Table 3 tended to cluster thus meeting the literature standard of "stability".

Table 4. Factor eigenvalues and variance explained.

Factor	Eigenvalues	Variance explained
1	19,41	50%
2	2,66	7%
3	2,25	6%
4	1,83	5%
Total		68%

Table 5.- Factor loading matrix with defining sorts flagged.

Nm	Q sort	Factor 1		Factor 2		Factor 3	Factor 4
1	1_CAg01	0,8304	Flagged	0,1918		0,3637	-0,0762
2	2_CAg02	0,7447	Flagged	-0,0049		0,3583	-0,2332
3	3_PCo01	0,0303		0,8686	Flagged	-0,2227	-0,0816

4	4_PCo02	-0,0123		0,7328	Flagged	0,3122		-0,1575	
5	5_CAg03	0,5241		0,3956		0,5902		-0,2206	
6	6_CCo01	-0,141		-0,0596		0,2317		0,8235	Flagged
7	7_CAg04	0,5518		0,371		0,5927		0,0742	
8	8_CAg05	0,4241		0,1607		0,7457	Flagged	-0,0861	
9	9_Se01	0,2531		0,2315		0,7198	Flagged	0,1347	
10	10_CAg06	0,4705		-0,1793		0,6018	Flagged	-0,1208	
11	11_CAg07	0,5192		-0,007		0,6557	Flagged	0,0444	
12	12_PAg01	0,7122	Flagged	-0,0078		0,5217		-0,1666	
13	13_PAg02	0,733	Flagged	0,2885		0,1505		-0,221	
14	14_Se02	0,3621		0,1171		0,5782	Flagged	-0,0617	
15	15_Se03	0,0483		-0,1622		0,7181	Flagged	0,1162	
16	16_CCo02	0,596	Flagged	0,1273		0,4799		-0,1419	
17	17_CAg08	0,7102	Flagged	0,23		0,4795		-0,0479	
18	18_CCo03	0,5399		0,1426		0,6149		-0,2876	
19	19_CCo04	0,5507	Flagged	0,2112		0,3874		0,0864	
20	20_CCo05	0,3403		0,0732		0,4939	Flagged	0,0961	
21	21_CCo06	0,1684		0,2003		0,88	Flagged	-0,007	
22	22_CCo07	0,3549		0,0579		0,3045		-0,4293	
23	23_CCo08	0,2748		0,3529		0,5243	Flagged	-0,2688	
24	24_CCo09	0,39		0,149		0,6415	Flagged	-0,0399	
25	25_CCo10	0,6106	Flagged	0,0673		0,2692		0,2296	
26	26_Se04	0,5607	Flagged	0,3995		0,3366		0,0535	
27	27_Se05	0,3322		-0,0059		0,7934	Flagged	0,1086	
28	28_Se06	0,2205		0,1484		0,3671		-0,1065	
29	29_CAg09	0,5825		0,371		0,5307		-0,0708	
30	30_CAg10	0,7427	Flagged	0,0199		0,4317		0,0514	
31	31_Se07	0,344		0,2113		0,4409		0,2559	
32	32_PAg03	0,7639	Flagged	-0,0616		0,3557		0,1501	
33	33_PAg04	0,7402	Flagged	0,0006		0,5801		-0,0922	
34	34_PAg05	0,9108	Flagged	-0,0354		-0,0166		0,0509	
35	35_PAg06	0,5199	Flagged	0,4777		0,1883		-0,0612	
36	36_PCo03	0,2599		-0,1501		-0,0564		0,8248	Flagged
37	37_PCo04	0,605	Flagged	0,4221		0,2814		0,176	
38	38_PAg08	0,6716	Flagged	0,0157		0,5314		-0,0732	
39	39_PAg09	0,7118	Flagged	0,2521		0,473		-0,0286	

3.2. Factor 1 Agroecology as a social movement and practice based on interpersonal trust

Factor 1 absorbed 50% of the variability collected in the interviews. Respondents aligned with this cultural frame view agroecology as an alternative social movement or practice (Wezel et al., 2009) and downplay its significance as a science or technique oriented towards the production of commodities for a specific market segment. Most of the respondents aligned with Factor 1

supported the general principles of agroecology as a social movement and practice (fig 2): "Agroecology is a socioecological movement that aims to make human and natural welfare compatible" (st 1), "Producers and consumers committed to agroecology projects prioritize the sustainability of a rural communities and agriculture" (st 13); "Personal contact and trust between producers and consumers are important in food production and distribution" (st 5). Statements 25: "landscape 3 polyculture orchard" and 8: "Agreements, commitments and shared decision-making are key components for sustainable agriculture" are also differential statements with regards to other factors.

-3	-2	-1	0	1	2	3
16. Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture.	10. Organic certification favors the production of food that is beneficial both for people and the environment.	6. Public administration authorities do not listen to or take into account the opinion and needs of producers.	3. Food supply and availability should be a collective choice where fair payment and care for the environment are paramount.	20. Agriculture should reuse all organic matter as much as possible, promoting a circular economy, even if this is less profitable for producers and consumers.	17. Local and seasonal products are always preferable.	1. Agroecology is a socioecological movement that aims to make human and natural welfare compatible.
** ◄ 9. Markets should determine the environmental, economic and social sustainability of agricultural systems.	4. Traditional practices and knowledge should not be a relevant factor in an efficient food production and processing system.	* 7. Public administration authorities do not listen to or take into account the opinion and needs of consumers.	* 22. Agriculture should favor the conservation of landscapes and traditional culture.	21. The agricultural sector should take care of wildlife by maintaining stands of natural vegetation and favoring the presence of wildlife.	25. Landscape 3. Polyculture. Complex system of high biodiversity and ecological practice.	13. Producers and consumers committed to agroecology projects favor the sustainability of a rural communities and agriculture.
15. Genetically modified organisms (GMOs) are beneficial for agricultural systems.	* 23. Landscape 1. Intensive agriculture. Simple mosaic	12. Organic and agroecological products are more expensive.	18. Soil fertilization should be carried out without synthetic fertilizers.	* ◄ 14. Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically.	** ► 8. Agreements, commitments and shared decision-making are key components for sustainable agriculture.	5. Personal contact and trust between producers and consumers are important in food production and distribution.
		11. Agroecology projects are more profitable than conventional agricultural projects from a commercial point of view.	24. Landscape 2. Traditional agriculture in terraces. Complex mosaic.	** 19. Domestic animals should have easy access to the open air, and be raised without pharmaceutical…		
			2. Agroecology should not be an initiative of public administrations.			

Fig 2.- Composite Q sort for factor 1. * Distinguishing statements at $P < 0.05$; ** Distinguishing statements at $P > 0.01$; ► Z-score for the statement is higher than in all other factors; ◄ Z-score for the statement is lower than in all other factors.

Finally, Factor 1 respondents reject the landscape represented by intensive farming (st 23); that the "market should determine the environmental, economic and social sustainability of agricultural systems" (st 9), "that genetically modified organisms (GMOs) can be beneficial for agricultural systems" (st 15) and that "Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture" (st 16). This is the factor of greatest consensus, mainly among agroecological producers and consumers and represents the cultural framing of agroecology most popular amongst agroecological producers and consumers as can be seen in Table 5. All agroecological producers and 4 out of 10 agroecological consumers expressed the greatest adherence to this preferential management.

Respondents who aligned with this factor articulated in the follow up interviews a very marked critical position with respect to the conventional agri-food production system. Indeed, most of them believe that agri-food systems should prioritize community solidarity over commercial viability. Respondents clustering around Factor 1 also show resistance to voluntary regulatory initiatives such as the certification of organic production. Some statements are highly critical with certification, for example: "The organic seal is only for big producers. It's a bit of a mafia." (respondent 34). This same stakeholder argued in the follow-up interview that there should not be any institutional intermediaries in agroecological circuits, "they leave out the social aspect

and agroecology should be something popular, from below and independent of power" (respondent 34). This same respondent explained that the lack of commercial viability of agroecological circuits emerges from unfair competition from the commercial agri-food system which hinders the viability of alternative models. For example, he explains, "the obligation to buy plastic products for packaging yogurt is imposed in the absence of a recycling system that allows you to reuse glass containers", "The cheapest prices for supermarket products are distorted because they do not include hidden environmental costs". This opinion is shared by respondent 1. "Collective management decisions (as those existing in some agroecological network initiatives) are not for everyone, i.e. not everyone can be in a consumer group or a cooperative" (respondent 2). He states that these entities require time and involvement and that not everyone has the time and/or motivation necessary to make them successful. Respondent 30 alludes to these same difficulties in his elaboration of his statement rankings: "Organic certification is quite poor: it does not include agroecology and is expensive for some producers".

3.3. Factor 2 Agroecological pragmatists: Agroecology is ethically desirable but cannot replace the current, conventional agrifood model productively or financially

Respondents clustering around Factor 2 have, in general, more moderate expectations about what agroecological food production can achieve (fig 3). They stand out for maintaining, for example, that "Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically" (st 14), and that "Local and seasonal products are always preferable" (st 17). However, these ideal options are moderated by their view that agroecological food production, though desirable, is difficult to achieve at a large scale to feed the majority of the population. In fact, they favor the more uniform landscape 1 with monoculture characteristics (st 23) and support that "Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture" (St 16). Additionally, they also reject the idea that "Soil fertilization should be carried out without synthetic fertilizers" (st 18), and "that public administration authorities do not listen to or take into account the opinion and needs of consumers" (st 6) "nor of producers" (st 7). Generally speaking, individuals with high factor loadings in F2 support the idea that some agroecological practices are beneficial for society, but they consider this agrifood model to be too idealistic. They also show some support for agroecological principles (local, diversity, culture) but question their market viability.

-3	-2	-1	0	1	2	3
** ◄ 18. Soil fertilization should be carried out without synthetic fertilizers.	1. Agroecology is a socioecological movement that aims to make human and natural welfare compatible.	2. Agroecology should not be an initiative of public administrations.	5. Personal contact and trust between producers and consumers are important in food production and distribution.	20. Agriculture should reuse all organic matter as much as possible, promoting a circular economy, even if this is less profitable for producers and consumers.	** ► 16. Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture.	14. Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically.
** ◄ 6. Public administration authorities do not listen to or take into account the opinion and needs of producers.	3. Food supply and availability should be a collective choice where fair payment and care for the environment are paramount.	4. Traditional practices and knowledge should not be a relevant factor in an efficient food production and processing system.	8. Agreements, commitments and shared decision-making are key components for sustainable agriculture.	21. The agricultural sector should take care of wildlife by maintaining stands of natural vegetation and favoring the presence of wildlife.	22. Agriculture should favor the conservation of landscapes and traditional culture.	** ► 23. Landscape 1. Intensive agriculture. Simple mosaic.
** ◄ 7. Public administration authorities do not listen to or take into account the opinion and needs of consumers.	11. Agroecology projects are more profitable than conventional agricultural projects from a commercial point of view.	15. Genetically modified organisms (GMOs) are beneficial for agricultural systems.	10. Organic certification favors the production of food that is beneficial both for people and the environment	25. Landscape 3. Polyculture. Complex system of high biodiversity and ecological practice.	** ► 12. Organic and agroecological products are more expensive.	17. Local and seasonal products are always preferable.
		9. Markets should determine the environmental, economic and social sustainability of agricultural systems.	19. Domestic animals should have easy access to the open air, and be raised without pharmaceutical…	* 13. Producers and consumers committed to agroecology projects favor the sustainability of a rural communities and agriculture.		
			24. Landscape 2. Traditional agriculture in terraces. Complex mosaic.			

Fig 3.- Composite Q sort for factor 2. * Distinguishing statements at $P < 0.05$; ** Distinguishing statements at $P > 0.01$; ► Z-score for the statement is higher than in all other factors; ◄ Z-score for the statement is lower than in all other factors.

The two respondents flagged on this factor were producers operating within the current, conventional agri-food model. In the follow up interview Respondent 3 uses the word "idealistic" to describe agroecological networks and confronts them with reality "... then the reality is different", "agriculture is a business and the environment comes after". Respondent 4 also identifies agroecological networks as an alternative social movement, "Agroecology is a socioecological movement that aims to make human and natural welfare compatible" but considers it to be very utopian, "if we produced everything organically, there would not be enough food for everyone." As a conventional producer he also believes that there are serious limitations to the agroecological production model regarding the availability of non-synthetic fertilizers for producers, "It is idyllic…let's see where he gets so much non-synthetic fertilizer in that area." He clarifies that in relation to his preference for seasonal and local products he has responded more as a consumer than a producer. Respondent 3 values positively the photo showing extensive agroecological cultivation but believes that this is unworkable at a larger scale, "The living rural world is also maintained by conventional agriculture." This same respondent also doubts the long-term viability of agroecological initiatives given the lack of governmental support and its focus on consumer needs rather than those of producers, "The administrations do whatever they feel like. Maybe with the CAP (Common Agricultural Policy of the European Union) consumers have gained something, but not us". Finally, this respondent is also sceptical of both the ecological and economic consequences of the introduction of more innovations in the conventional agri-food system, "GMOs (Genetically Modified Organisms) are out of the question, neither as a producer nor as a consumer." "They are more profitable at the beginning. But, in the long run they are more expensive because it makes you dependent on a third party and they require more and more care."

3.4. Factor 3 Disillusioned agroecological supporters

Respondents defining this factor seem to be driven by ethical principles or desires but otherwise are sceptical about the capacity of agroecology to deliver as a global agrifood alternative. Much like respondents clustered around Factor 1, Factor 3 respondents stand out for their adherence to caring, ethical principles such as, for example, the humane care for domesticated animals with access to the outdoors and the production of meat without pharmaceutical additives (st 19). Solidarity with agrifood producers is also valued highly by this group of respondents who view farmers as the gatekeepers of a living rural world and sustainable agriculture (st 13), and advocate for farming the land without synthetic fertilizers (st 18). Their rejection of industrial agriculture is therefore coherent. An important divergence with respect to factor 1 is the adherence to organic farming certification, which is valued positively by these respondents (+2) while in factor 1 it is valued negatively (-2). See fig 4. Respondents aligning with factor 3 seems to be more inspired by ethical criteria than with adherence to community values, contrasting with Factor 1 respondents in which both ideas are highly correlated (supplementary material).

-3	-2	-1	0	1	2	3
15. Genetically modified organisms (GMOs) are beneficial for agricultural systems.	9. Markets should determine the environmental, economic and social sustainability of agricultural systems.	1. Agroecology is a socioecological movement that aims to make human and natural welfare compatible.	24. Landscape 2. Traditional agriculture in terraces. Complex mosaic.	20. Agriculture should reuse all organic matter as much as possible, promoting a circular economy, even if this is less profitable for producers and consumers.	** ► 10. Organic certification favors the production of food that is beneficial both for people and the environment.	** ► 19. Domestic animals should have easy access to the open air, and be raised without pharmaceutical…
16. Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture.	4. Traditional practices and knowledge should not be a relevant factor in an efficient food production and processing system.	6. Public administration authorities do not listen to or take into account the opinion and needs of producers.	3. Food supply and availability should be a collective choice where fair payment and care for the environment are paramount	17. Local and seasonal products are always preferable.	14. Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically.	13. Producers and consumers committed to agroecology projects favor the sustainability of a rural communities and agriculture.
*◄ 23. Landscape 1. Intensive agriculture. Simple mosaic.	2. Agroecology should not be an initiative of public administrations.	11. Agroecology projects are more profitable than conventional agricultural projects from a commercial point of view.	5. Personal contact and trust between producers and consumers are important in food production and distribution.	25. Landscape 3. Polyculture. Complex system of high biodiversity and ecological practice.	22. Agriculture should favor the conservation of landscapes and traditional culture.	* 18. Soil fertilization should be carried out without synthetic fertilizers.
		12. Organic and agroecological products are more expensive.	7. Public administration authorities do not listen to or take into account the opinion and needs of consumers.	21. The agricultural sector should take care of wildlife by maintaining stands of natural vegetation and favoring the presence of wildlife.		
			8. Agreements, commitments and shared decision-making are key components for sustainable agriculture.			

Fig 4.- Composite Q sort for factor 3. * Distinguishing statements at $P < 0.05$; ** Distinguishing statements at $P > 0.01$; ► Z-score for the statement is higher than in all other factors; ◄ Z-score for the statement is lower than in all other factors.

Self-described conventional producers cluster around this factor. Respondents in this group argued in the follow up interviews that certification has enabled producers to monetize their production successfully and consider themselves to be truly legitimized as agroecological producers due to the certification process which in turn has allowed them to carve a niche for themselves in the competitive marketplace. For example, respondent 8 in statement 12 on the price of organic and agroecological products states with regards to the higher price of these commodities: "It depends on what we look at. At the time of purchase, yes, they are more expensive, but if you take into account the consequences for health and the planet, they are not

more expensive". Respondent 21 further questions the terms "expensive" or "more profitable" by incorporating the concept of medium and long term social and environmental costs. Regarding cost-effectiveness, respondent 8 defends organic certification which he believes empowers agroecological producers in their competition with conventional producers, "certified products found in large supermarkets compete with conventionally produced commodities". He also believes that organic certification facilitates decision-making amongst consumers: "There are so many agroecological movements that confuse the consumer. Their intentions are noble, but from the point of view of the consumer they should talk about organic certification", "to be organic they have to meet a European standard that must be met to certify and endorse. And (these movements) are excluding these standards." He warns that in fact there are products that are, " local and seasonal but not organic because they use fertilizers or pesticides that end up polluting the environment." Paradoxically, he also justifies the existence of GMOs because "somehow we will have to feed 8 billion people".

Quite tellingly, respondent 36 supports crop rotation even though he cannot practice it for practical reasons. In fact, he claims that pesticides are now all organic. For respondent 6 “GMOs can be used if and only there is information because many times they are used in very bad ways”. He also affirms that, “Chemicals should not be used in the products to be ingested”. Both were initially characterized as conventional consumer (6) and producer (36) but prone to an agroecological sensibility. It should be noted that many of the respondents flagged on this component self-identified as organic certifiers.

3.5. Factor 4 Agroecology as an individual choice

While Factor 3 respondents seem to focus more on collective and regulatory changes, such as organic certification or respect for animal rights, Factor 4 respondents appear to seek a more individualistic solution to the current conventional model’s failure, perhaps guided by health criteria and purchasing power. Factor 4 respondents seem to exhibit greater trust in the market and less trust in collective decision-making than Factor 3 respondents. Factor 4 (fig. 5) respondents believe that personal contact and trust between producers and consumers are important in food production and distribution (st 5), that soil fertilization should be carried out without synthetic fertilizers (st 18) and that crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically (st 14). They do not believe, however, that the role of agroecology is to assume collective good commitments such as promoting a circular economy even if it is less profitable (st 20); nor that agreements, commitments and shared decision-making are important features of an operational sustainable agriculture system (st 8). They also do not believe that the agricultural sector should assume responsibilities such as biodiversity conservation by maintaining patches of natural vegetation and favoring the presence of wildlife (st 21).

-3	-2	-1	0	1	2	3
**◄ 20. Agriculture should reuse all organic matter as much as possible, promoting a circular economy, even if this is less profitable for producers and consumers.	**◄ 22. Agriculture should favor the conservation of landscapes and traditional culture.	10. Organic certification favors the production of food that is beneficial both for people and the environment.	6. Public administration authorities do not listen to or take into account the opinion and needs of producers.	** ► 11. Agroecology projects are more profitable than conventional agricultural projects from a commercial point of view.	24. Landscape 2. Traditional agriculture in terraces. Complex mosaic.	5. Personal contact and trust between producers and consumers are important in food production and distribution.
**◄ 8. Agreements, commitments and shared decision-making are key components for sustainable agriculture.	16. Synthetic pesticides (insecticides, fungicides, herbicides, etc.) are necessary for agriculture.	19. Domestic animals should have easy access to the open air, and be raised without pharmaceutical…	7. Public administration authorities do not listen to or take into account the opinion and needs of consumers.	1. Agroecology is a socioecological movement that aims to make human and natural welfare compatible.	** ► 9. Markets should determine the environmental, economic and social sustainability of agricultural systems.	* ► 18. Soil fertilization should be carried out without synthetic fertilizers.
**◄ 21. The agricultural sector should take care of wildlife by maintaining stands of natural vegetation and favoring the presence of wildlife.	4. Traditional practices and knowledge should not be a relevant factor in an efficient food production and processing system.	2. Agroecology should not be an initiative of public administrations.	** 23. Landscape 1. Intensive agriculture. Simple mosaic.	15. Genetically modified organisms (GMOs) are beneficial for agricultural systems.	17. Local and seasonal products are always preferable.	14. Crop rotation and diversification is beneficial for production, biodiversity and the environment even if it is less profitable economically.
		**◄ 13. Producers and consumers committed to agroecology projects favor the sustainability of a rural communities and agriculture.	3. Food supply and availability should be a collective choice where fair payment and care for the environment are paramount.	25. Landscape 3. Polyculture. Complex system of high biodiversity and ecological practice.		
			12. Organic and agroecological products are more expensive.			

Fig 5.- Composite Q sort for factor 4. * Distinguishing statements at $P < 0.05$; ** Distinguishing statements at $P > 0.01$; ► Z-score for the statement is higher than in all other factors; ◄ Z-score for the statement is lower than in all other factors.

Clearly, they do not see agroecology as a transformative social movement and consider the consumption of its products to be an individual choice. They do not feel a particular commitment to social transformation, but they do use practical criteria to qualify their choices. For example, "Personal treatment and trust is important" (st 5); while "agreements, commitments and shared decision-making" (st 8) are rejected.

4. Discussion

4.1. Motivations of producers and consumers for participating in agro-ecological circuits in Spain

In this study we hypothesized that agroecological consumer and producer participation decisions in agroecological action arenas would pivot around two sets of motivations: utilitarian vs non-utilitarian decision making in the consumption and production of agroecological commodities. We found, however, through our analysis that these motivations are also moderated by what we could characterize as individualist vs communitarian motivations for participation in voluntary agroecological circuits. These additional motivations are schematically represented in Table 6.

Table 6.- Utilitarian vs non-utilitarian and individualistic vs communitarian cultural framings of agroecology

	Communitarian	Individualistic
Non-utilitarian	Factor 1. Agroecology as a social movement based in interpersonal trust. Economic viability is secondary to ecological sustainability. Agroecology is good both for communities and environment.	Factor 3. Agroecological ethic/sceptic. Agroecology may be better for the environment and sustainability, but it is an unattainable ideal. Large-scale production to feed the world's population can only be achieved through conventional agri-food systems.
Utilitarian	Factor 2. Agroecological pragmatist. Some agroecological practices are good for society but not all of them are feasible. The technical approach to agroecology prevails.	Factor 4. Agroecology as an individual choice and benefit.

Individuals participating in agroecological production and consumption exhibit divergent motivations which we have described as utilitarian and non-utilitarian value orientations. Likewise, the preferences expressed are sometimes based on participatory dialogic decision predispositions, while in others they are more individualistic. We understand that all the preferences expressed in response to the request to order the values of community and landscape resilience underlying the postulates of agroecology that we collected can be interpreted as the birth-pangs of sociotechnological transitions to sustainability (Geels, 2011).

Based on the results obtained in this study, it is worth reflecting on the different processes that preside over informational relations in agroecological, human and natural meta-coupled systems. Since it is apparent that for most participants, as our factorial analysis shows, participation in these circuits is based on non-monetizable relational values we propose, based on our results, a certain series of issues that ought to be reflected about and researched more in-depth in the future. Should the consumption and production of organic and agroecological commodities be simply dismissed as a case of luxury "conspicuous consumption" sensu Veblen and what would be the implications of this consumerist model for the medium-term sustainability of agroecological circuits? We define here "conspicuous consumption" as, "…the acquisition and display of expensive goods and services aimed at attaining social status" (Kumar et al., 2022: 471). Should participation in agroecological circuits be an individual choice or should institutions intervene in the market to impose a more communitarian friendly model of ecologically and socially sustainable food production that takes into account the hidden costs unaccounted for in conventional agrifood production? Finally, is agroecological production and consumption a workable alternative to the current, conventional agrifood system of production and the most viable and resilient path, both from an ecological and cultural perspective, for the sustainable production of food for future generations?

The Millennium Ecosystem Assessment and other attempts to monetarily quantify ecosystem benefits have been criticized for their difficulty in identifying non-utilitarian values (Chan et al., 2018). A methodological assessment on the valuation of nature conducted by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services also

criticizes the excessively utilitarian approach that leaves out other values referring to the relationships that certain groups or human communities maintain with nature (IPBES, 2022). The agroecological literature clearly establishes that agroecology cannot be understood only as a science but also constitutes a set of practices and a social movement (Altieri & Nicholls, 2020; FAO, 2019, 2021; Gliessman, 2015; López-García et al., 2021; Mottet et al., 2020; Nicholls et al., 2020; Nicholls & Altieri, 2018; Wezel et al., 2020). In other words, the practice of agroecology implies certain techniques and, moreover, certain modes of relationship and organization in communities. Rural agroecological production communities should be considered as tele-coupled with urban consumer communities. The demand for food products influences decisively the configuration of consumption and production systems.

The utility rationale has been commonly used to explain individual economic decisions on the understanding that people act with a criterion of "utility maximization". (Lejano & Fernandez de Castro, 2014) and highlight that in addition to "utility maximization" collective action arises from other motivations such as for example "respect for others, tradition, empathy and others that do not translate into individual rationality." We have found that, from a cultural and psychological perspective, this simple dichotomy leaves many other possible value orientations towards agroecology out of play. Lejano and Fernández de Castro (2014) emphasize that in society there are abundant institutions that prevent people from acting according to intrinsic norms of justice and empathy. It is Raul Lejano and Fernandez de Castro's opinion that "when we modify institutional practices to increase recognition (i.e., the possibility of identifying the recipients of one's actions), we enable people to act in ways that are true to their authentic selves." (Lejano & Fernandez de Castro, 2014). The authors use studies on responsible behavior in the management of household waste as an example. The "altruistic" behavior of recycling derives in some cases from normative considerations of a moral type ("many individuals recycle not out of any utility maximizing rationale but classic normative considerations") and in others by acceptance or adaptation of a given social norm (Lejano & Fernandez de Castro, 2014).

An alternative way of interpreting these "altruistic" behaviors, as we suggest, occurs when the main motivation is not strictly utilitarian or non-utilitarian but instead is at least partly conditioned by the search for social acceptance or prestige. This would be a modality of conspicuous consumption behavior sensu Veblen. Behavior of this nature has been detected in tourism consumption (Lejano & Fernandez de Castro, 2014) and fashion consumption (Apaolaza et al., 2023). Also, the growth of organic product shelves in supermarkets point to this type of conspicuous organic consumption which would point, as we have suggested, to more individualistic value orientations towards participation in agrifood consumption.

It has been argued that, "The relationship between conspicuous consumption and subjective well-being is stronger for cultures defined by low power distance. The strength of relationship between conspicuous consumption and the perception of elevated status is stronger for cultures defined by high power distance" (Hofstede, 2011; Kumar et al., 2022). Our findings from the Spanish case, suggest a differentiated approach for those organizations or social entrepreneurs wishing to promote the establishment of agroecological circuits in countries where the “corporate food-big retail” model sensu Sanz-Cañada and Yacaman-Ochoa (2022) is prevalent. In high power distance countries such as Malaysia and Mexico, institutions and social entrepreneurs may wish to highlight the status quotient of consumers willing to purchase agroecological products as suggested in the literature (Kumar et al., 2022). Whereas in low power distance countries where this model of food production and distribution is pervasive agroecological organizations and social entrepreneurs may wish to focus more on the general

aspects of subjective well-being existing in cultures such as Austria and Denmark (Kumar et al., 2022). In other words, and according to our findings, in cultures with high power distance where, we hypothesize, Factor 2 and 4 perspectives may be widespread, the appeal to "conspicuous consumption" for jumpstarting agroecological certificated circuits may already be the retail strategy favored by commercial agrifood distributors whereas in countries where the "corporate food-big retail" model is dominant, and where Factors 1 and 3 perspectives may be more pervasive, regulation through certification is being encouraged by regulators to reinforce the medium term sustainability of these networks. These strategies marginalize, however, low-income social group access to agroecologically produced commodities. Alternative networks of food production and consumption in Latin America such as "Via Campesina" and the "Slow Food" movement as well as other civil society movements built on participatory social certification, such as Red Ecovida in Brazil and Seikatsu in Japan, seek to address these present cultural and market limitations by focusing precisely on low-income social groups (Hatanaka, 2014; Vivero-Pol, 2017). These hypotheses, however, would need to be validated by further research into stakeholder perspectives in countries with these characteristics.

4.2. Agroecological circuits of production, distribution and consumption are based on shared values expressed by the people involved in these initiatives

The results of our work in Spain show that a part of the values wielded by the respondents subscribe to communitarian values, not directly related to profit or utility. In low power distance countries, such as Spain, where the "corporate food-big retail" model, where this study took place, prevails debates on agroecology can be approached from the perspective of deliberative democracy (Benhabib, 1992). If we adopt a commons and communal goods-based value perspective sensu Ostrom the idea of value allocation takes the form of collective agreements (Agrawal & Ostrom, 1999; Ostrom, 1990, 2009). The production, distribution and consumption of food is genuinely endowed with the attributes of communicative action, in the sense that all decisions are framed communally as deliberative acts. In low power distance country agrifood systems communal decision-making covers all aspects of the system from what is considered good to eat, to the negotiation of price. Therefore it is, "the aggregation of seemingly individual food choices has led us to a perfect storm of environmental, climatic, and energy dilemmas" (Busch, 2014). The crisis of the current "corporate food-large retail" agrifood system as evidenced in Europe and Spain by recent conventional producers' demonstrations show the tensions between the demands for economic competitiveness in the individualized market place, where "rational" individual decision-making is based fundamentally on price, and institutional attempts to regulate the European market, via regulatory pressure on said conventional producers, to adopt a more sustainable agrifood model that benefits the entire community. This regulatory pressure leaves conventional producers in an impossible quandary since European Union policies ignore the issue of hidden costs associated with conventional agricultural production, the increased tele-coupling of agrifood systems where politically distant conventional production can circumvent attempts to regulate their practices and unpaid ecosystem services for agroecological producers and consumers who choose voluntarily to participate in the circuits we have studied here. Although it could be assumed that, according to the prevailing theory of market logic, individuals choose food freely and autonomously according to their tastes and preferences, there are numerous complex factors that condition choice. Individual choices are always framed within a social and cultural context of reference (Armelagos, 2010). The relationships between the systems of food issuers or producers located in rural areas and the systems of urban recipients demanding supplies, mostly

located in urban areas, are connected by means of informative relationships with different levels of transparency. Alternative agrifood networks by foregrounding issues of individual choice have the potential to lead to collective action that transcends that individual choice (Busch, 2014).

5. Conclusion

In this study we carried out a Q methods analysis of producer and consumer motivations for participating in agro-ecological circuits that present themselves as an alternative to the conventional agri-food "corporate food-big retail" model (Sanz-Cañada et al., 2023).We hypothesized that agroecological producers would exhibit utilitarian value orientations to a greater extent than agroecological consumers due to their financial dependence on the success of these initiatives for their individual welfare. Conversely, the voluntary character of participation by agroecological consumers in these initiatives would, we believed, incentivize a more non-utilitarian approach based on ethical or moral principles for participation in these circuits. We found instead that a more complex picture of motivations emerged amongst our sampled respondents. As expected most respondents embraced a non-utilitarian view on participation in these circuits and can therefore be described as idealists critical with the current agri-food production system that are seeking for viable alternatives to it in the current agro-ecological circuit. This attitude is majoritarian both for consumers and producers. Factor 2, however, points in a different direction that of producers that, as we hypothesized, maintain a critical view of the conventional agri-food system but are also mindful of the limits of the current agro-ecological alternative model. We characterize respondents that align with these factors' viewpoints as communitarians. Finally, Factors 3 and 4 describe attitudes towards participation in agro-ecological circuits that we describe as more individualistic. For these respondents participation in these circuits is a personal choice, rather than a moral mandate. For these respondents participation in these circuits is an individual choice (health, self-esteem, prejudices, fears), that seems to align with the rational egoist model of human decision making rather than a moral mandate (Lejano & Fernandez de Castro, 2014).

If these agro-ecological circuits are to thrive in the future a more nuanced understanding of the motivations driving participation in them is needed. Based on our findings results' we have argued that the search for social acceptance and prestige may be an important motivating driver underpinning participation in these circuits. In turn, we have also called for a deeper analysis of how the power distance cultural relations of a given society may condition strategies for attracting more participants to these circuits given the aforementioned value orientations. More research would be needed to understand the interaction between both of these dimensions perhaps through a more systematic study of the motivations of producers and consumers in multiple low and high power distance societies that transcend the limits of what can be concluded from a single-case study in a low power distance country such as Spain.

Data availability

The data of the Q-sort are available in https://doi.org/10.21950/BXAESY

Competing interests

The authors declare no competing interests.

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