



Strengthening European Food Chain Sustainability by Quality and Procurement Policy

Deliverable 10.2:

DEVELOPMENT, REFINEMENT AND VERIFICATION OF POLICY RECOMMENDATIONS

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EXECUTIVE SUMMARY

The Deliverable 10.2 (D10.2) provides policy recommendations to improve the effectiveness of Food Quality Schemes (FQS), to strengthen the Public Sector Food Procurement (PSFP) in primary schools and to stimulate the Short Food Supply Chains (SFSC) at national, EU and international levels. It draws on the research findings of the Strength2Food project to evaluate, refine and verify the factors that determine the success or failure of FQS, PSFP and SFSC initiatives and their economic, environmental and social impacts through a Delphi study.

Research-based policy recommendations, as well as statements from previous experience and the knowledge of the participants in Task 10.2, were assessed through a Delphi method. By applying a **modified Delphi-SWOT framework**, the experts' opinion was recorded on the key *Strengths* and *Weaknesses* for improving FQS, PSFP and SFSC, the *Opportunities* or strategies to strengthen them and the critical *Threats* or barriers that may impede their development. Delphi study was conducted across five European countries (Greece, Italy, the United Kingdom, France, and Serbia) to a heterogeneous sample of 108 European experts from different professional fields.

The current work contributes to decision-making processes by offering information concerning the internal strengths and weaknesses of the investigated initiatives, as well as external opportunities and threats to them. The survey identifies strategies for improving FQs, PSFP and SFSC, along with threats or barriers that inhibit their development and augmentation.

Overall, the findings of this study offer specific policy and practical recommendations for all the players involved in FQs, SFSCs and PSFP, i.e., the farmers, the stakeholders and the EU policymakers.

Experts agree that FQs offer superior economic, environmental and social impacts for rural territories, as they create value for farmers, consumers and the whole production system. *For farmers*, the findings of the current work indicate that the FQS fulfil their purpose to a certain extent, as they offer **better profits to farmers due to the value added, enhanced bargaining power in markets and increased employment for workers** in farming and food processing.

For EU policymakers, FQs can be further supported, as EU and national policies could serve as a **tool to enhance intra-EU trade of products boosting their sales to**

international markets. Nevertheless, the **generation of public goods through the FQS requires resilient coherence and coordination of EU policies.**

However, *consumers' confusion and little knowledge regarding the attributes behind labels* impedes efforts to expand the sales of FQS labelled products. This finding points to the need for **policy actions to raise consumer awareness and knowledge about these products.** An integrated policy strategy should be developed that will embrace cohesive plans by Member States to reshape the food environment, linking incentives for healthy and sustainable food production with the creation of new markets for these products. Specific **communication campaigns promoting FQS** should address consumers' informational deficits with respect to FQS labels, particularly organic and GI labelled products. A smart food labeling system may require a common food policy scheme, reducing the complexity of different national systems for producers in the single market while simplifying and improving the information available to consumers. By establishing closer links between producers and consumers and through their inherent characteristics, FQS can make a decisive contribution to encouraging healthier and more sustainable food consumption.

Similarly, the results of this work recommend actions and policy interventions to ameliorate the effectiveness of PSFP in primary schools. Such targeted actions in school meals' management could improve the nutritional benefits pupils receive from school meals, through, for example, the **collaboration and setting up of multi-stakeholder forums on menu development.** Societal benefits are also prominent, as streamlined PSFP could **reduce the impact on the environment through the greater use of environmental and socio-economic criteria in procurement contract awards,** and the **specific actions to reduce plate waste in canteens.** Yet, improving PSFP in primary schools requires policies that either **boost expenditure on school meals and staff recruitment** or **organize field visits for food suppliers in schools** to have an integrated picture of the procedures and food provided.

Finally, for SFSCs, the study points to beneficial outcomes such as **the additional employment generated and promotion of an improved gender balance due to greater employment of women** in logistics activities and **consumers' better awareness of the products they buy.** As mentioned earlier for FQS, consumers' recognition of these products is an essential first step for them being considered in consumer decision making. Experts generally believe that **creating an EU labeling scheme for SFSCs will prompt their recognition.** The goal would be to promote the transition from food consumption characterized by waste to responsible eating behavior characterized by care, awareness and

responsibility. A prerequisite for this transition to sustainable nutrition from SFSCs is that interested consumers become responsible citizens.

The current work identifies that stakeholders from different countries perceive the functionality and effectiveness of FQS, PSFP and SFSC very differently. Still, the bottom-line is that all of them believe that such initiatives have a positive impact on the development of rural territories and require a holistic and coherent policy approach for their effectual consolidation and implementation. **Policy measures must be coordinated on both the supply and demand sides**, meaning that the availability and affordability of food through FQS, the PSFP and the SFSCs must also be **harmonized with increased access, awareness and empowerment of consumers to choose healthy and tasty food**.

Towards this direction, EU policymakers should focus on a holistic approach that will emphasize: *(i)* the economic, environmental and socio-cultural sustainability of FQS, PSFC and SFSCs; *(ii)* the integration between sectors, policy areas and levels of government; *(iii)* the participatory decision-making processes for all the stakeholders involved in these initiatives; and *(iv)* a combination of mandatory measures and incentives to accelerate the transition to sustainable food systems and improve their effectiveness.

LIST OF ABBREVIATIONS AND ACRONYMS

EC	European Community
EU	European Union
FQS	Food Quality Schemes
FR	France
GE	Gender Equality
GI	Geographical Indication
GR	Greece
IT	Italy
LA	Local Authority
PDO	Protected Designation of Origin
PGs	Public Goods
PGI	Protected Geographical Indication
PSFP	Public Sector Food Procurement
SER	Serbia
SFSC	Short Food Supply Chains
S2F	Strength2Food
UK	United Kingdom

1. INTRODUCTION AND OBJECTIVE

The D10.2 is the second of seven deliverables from Work Package 10 (WP10) of the Strength2Food (S2F) project that primarily aims *to elaborate the project's policy recommendations, involving a broad range of stakeholders, leading to more effective targeting of measures and use of resources*. The goal of WP10 is to provide policy and practical recommendations arising from the project, at the EU, international and national levels with a particular emphasis on Food Quality Schemes (FQS), Short Food Supply Chains (SFSC) and Public Sector Food Procurement (PSFP) in primary schools.

By applying a policy Delphi framework, D10.2 attempts to refine and verify the project's policy findings and based on the synthesis of the main findings of WPs 3 to 8, it evaluates the impact of quality and food procurement policies on the social and economic sustainability of rural territories. Notably, in the WPs 3 to 8, research activities were carried out to identify the determinants of the success or failure of FQS, PSFP and SFSC initiatives and their economic, environmental and social impacts. Employing the **Delphi method** as a qualitative approach across five European countries (Greece, Italy, the United Kingdom, France and Serbia) it was possible to quantitatively assess practitioner support for potential policy initiatives. These results feed into the work of *mapping policy and practitioner recommendations into practical guides for each participated country and region to identify differences and similarities and finalise the list of policy proposals*, in Task 10.3.

D10.2 contributes to the decision-making process by linking the empirical data from previous surveys with experts in the domains of FQS, PSFP and SFSCs. Thus, it provides insights into the **Strengths** and **Weaknesses** that determine the effectiveness of FQs, such as PDO/PGI/Organic, PSFP and SFSC in Europe, the **Opportunities** or strategies that can help them achieve their objectives and the **Threats** or deficiencies that limit their ability to contribute to sustainable food systems.

D10.2 starts with a description of the methodological approach, including information on data collection in the first section. Subsequently, the second section presents and discusses the results obtained from the statistical analysis. The final third section concludes with the major factors affecting the agri-food sector and food supply chains in the EU.

2. MATERIALS AND METHODS

A policy Delphi framework was applied to identify a variety of alternatives to improve the effectiveness of Food Quality Schemes, to strengthen Public Sector Food Procurement in primary schools and to stimulate Short Food Supply Chains, at national, EU and international levels. A modified Delphi-SWOT procedure sought experts' opinion on critical **Strengths** and **Weaknesses** for improving FQS, PSFP and SFSC, **Opportunities** or strategies to strengthen them and critical **Threats** or barriers that may confine their development.

The Delphi approach is well known as a method to obtain a consensus among experts or stakeholders, created by the RAND Corporation (Powell, 2003). Despite its early inception, the most recognised description of the method was offered by Linstone and Turoff (1975). It is widely used to transform 'expert' opinion into group consensus through a series of, mostly two or three, structured questionnaire rounds (Hasson and Keeney, 2011; McKenna, 1994). An advantage of the method is that it allows all experts, regardless of the constraints of their geographic and daily schedules, the opportunity to respond at times which are convenient to them (Geist, 2010). However, specific criticisms exist, and in particular, the most common being the relatively small, non-random samples typically used in Delphi studies. It has also been criticised as it is argued to force consensus among participants.

The Delphi framework is a multistage procedure involving the initial measurement of opinions (first round), followed by data analysis, development of a new questionnaire based on experts' responses to the previous round, and the second measurement of opinions (second round) (McKenna, 1994). The method does not focus on generating one decision, but rather on investigating various views on policy and potential resolutions (Mukherjee et al., 2015). The Policy Delphi approach has been used to develop public policies in several domains, and it has also been conducted to support the process of policy planning and decision making for the agri-food sector (Frewer et al., 2011; Huan-Niemi et al., 2016).

2.1 Methodological framework

Several practical guidelines on how to successfully organise a Delphi survey exist in the international literature. As for the number of rounds in implementing the method, recommendations vary from one to five with the majority of previous studies applying either two or three rounds (Junger et al., 2017), as participant attrition increases with successive rounds (Fink et al., 1984). Similarly, there is no clear consensus about how many panellists are required to participate in the research. Delphi studies have mostly utilised from between 15 to 20 panellists (Ludwing, 1997; Hsu and Sandford, 2007), with some including 14 to 30 participants (Pare et al., 2013). However, according to Dunn (1994), a typical policy Delphi sample size fluctuates from between 10 and 30 panellists. Given these considerations, the choice was to organise two rounds of online polling for the Delphi framework for a period of five to six months and a target group of about 30 to 55 participants to each forum in which consensus may occur.

2.2. Panellist selection

Murry and Hammons (1995) argue that the most important criterion in any Delphi study should be the panellists' expertise on the subject under investigation. Individuals are considered eligible for participation in the study if they have relevant backgrounds or experiences to the subject (Pill, 1971). Participants' knowledge and interest in the topic help to increase the content validity of the Delphi (Goodman 1987). Therefore, careful consideration should be placed on the criteria employed that justify a participant as an "expert" (Hasson et al., 2000). According to Rist and Dahdouh-Guebas (2006), the criteria of experts' selection could be (i) the years of experience, (ii) the direct involvement in the subject, (iii) the number of peer-reviewed publications in international journals, (iv) the engagement with relevant organisations and (iv) the indigenous knowledge.

The above-mentioned criteria were used in conducting the present research. Thus, an interdisciplinary independent group of knowledgeable experts from five different countries (Greece, Italy, the United Kingdom, France and Serbia) was invited to participate. This independent group was comprised of experts from different professions and they were invited to rank all items included in the Delphi questionnaire. Specifically, the group was comprised of policymakers, selected producers/processors/retailers, companies/associations/rural stakeholders, staff scientists (research staff of public and private sector, teachers) and academics. Regarding the guidelines for conducting a Delphi

survey, it is imperative that the agreed panellists should maintain their involvement until the process is completed. Consequently, during initial contact, it was kindly requested from group members to participate in the survey until its completion.

A multiple-step procedure (Figure 1) was implemented to categorise, identify and select the group of experts, following the guidelines of Delbecq et al. (1975) and Okoli and Pawlowski (2004). Notably, the panel of experts was identified and prepared according to their skills and the domain of their expertise. Subsequently, panellists were asked to propose additional experts, and they were ranked according to their skills, and finally, they were invited to participate in the survey.

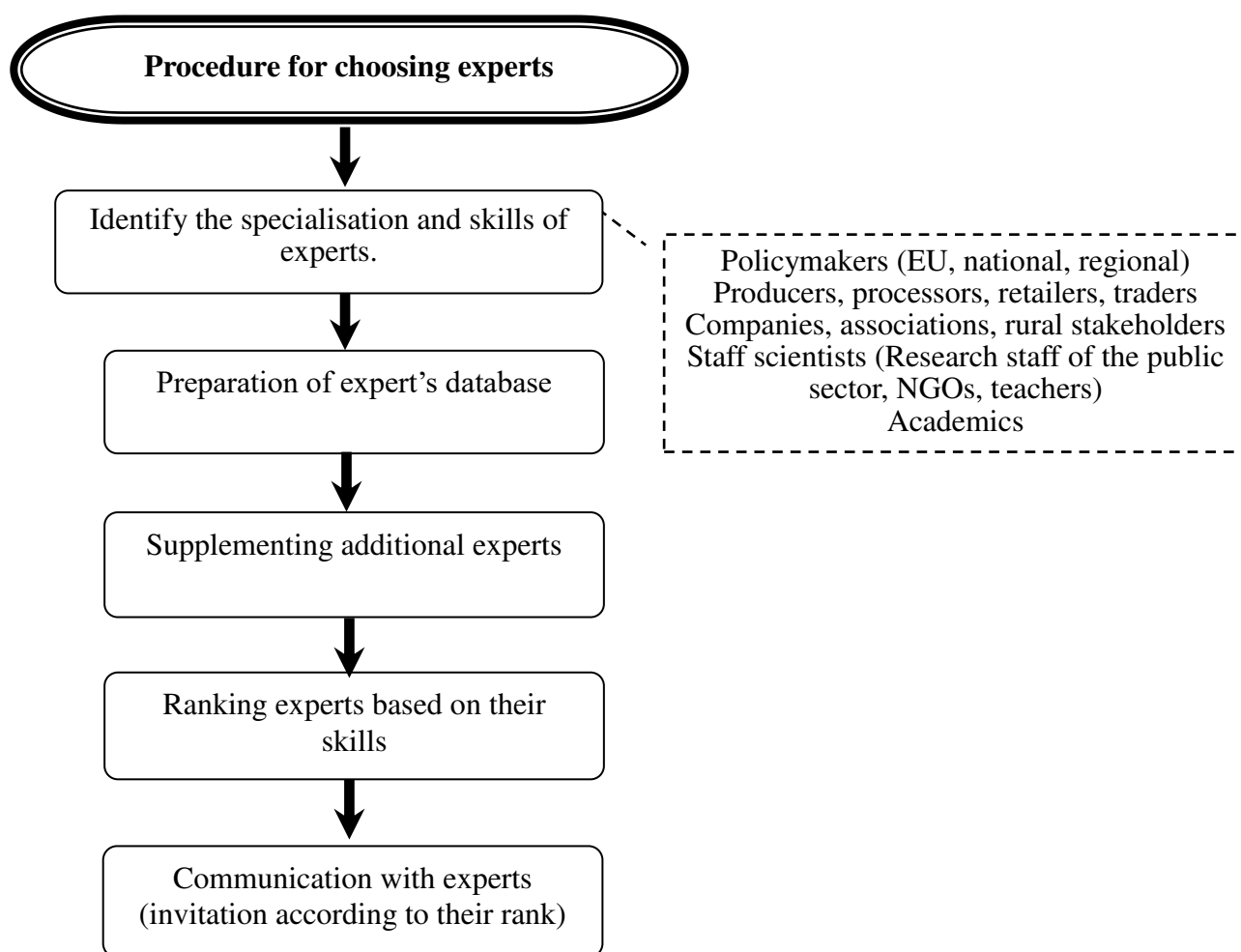


Figure 1. Procedure for selecting experts.

2.3 Data collection

Data collection for the Delphi survey involved two rounds of polling within a six-month period (March-August 2020) that was implemented in six phases: (i) creation of the preliminary questionnaire based on the project's previous findings, on related experience and a literature review, (ii) selection of the experts, (iii) mailing of the first-round questionnaire, (iv) statistical analysis of the responses and development of the new questionnaire, (v) mailing of the second round questionnaire based on the evaluation of the first-round responses and (vi) final data analysis and results.

For each round of polling, experts were invited by e-mail to participate as panellists, through a link to the online system. The two-round survey was completed online using the Qualtrics survey platform (Qualtrics, LLC). The online questionnaire approach was selected in order to facilitate best the consultation of experts in the participant countries (Holloway, 2012). The e-mails were then sent to nominated participants accompanied by an invitation letter that explained the purpose of the survey, the criteria for their selection and the approximate time it will take to complete the survey. A timeframe of approximate six weeks was set for the completion of each round. For the experts who did not reply to the questionnaire, two reminder e-mails were sent, two and four weeks after the initial e-mail invitation. The specific process is illustrated in the following Figure 2.

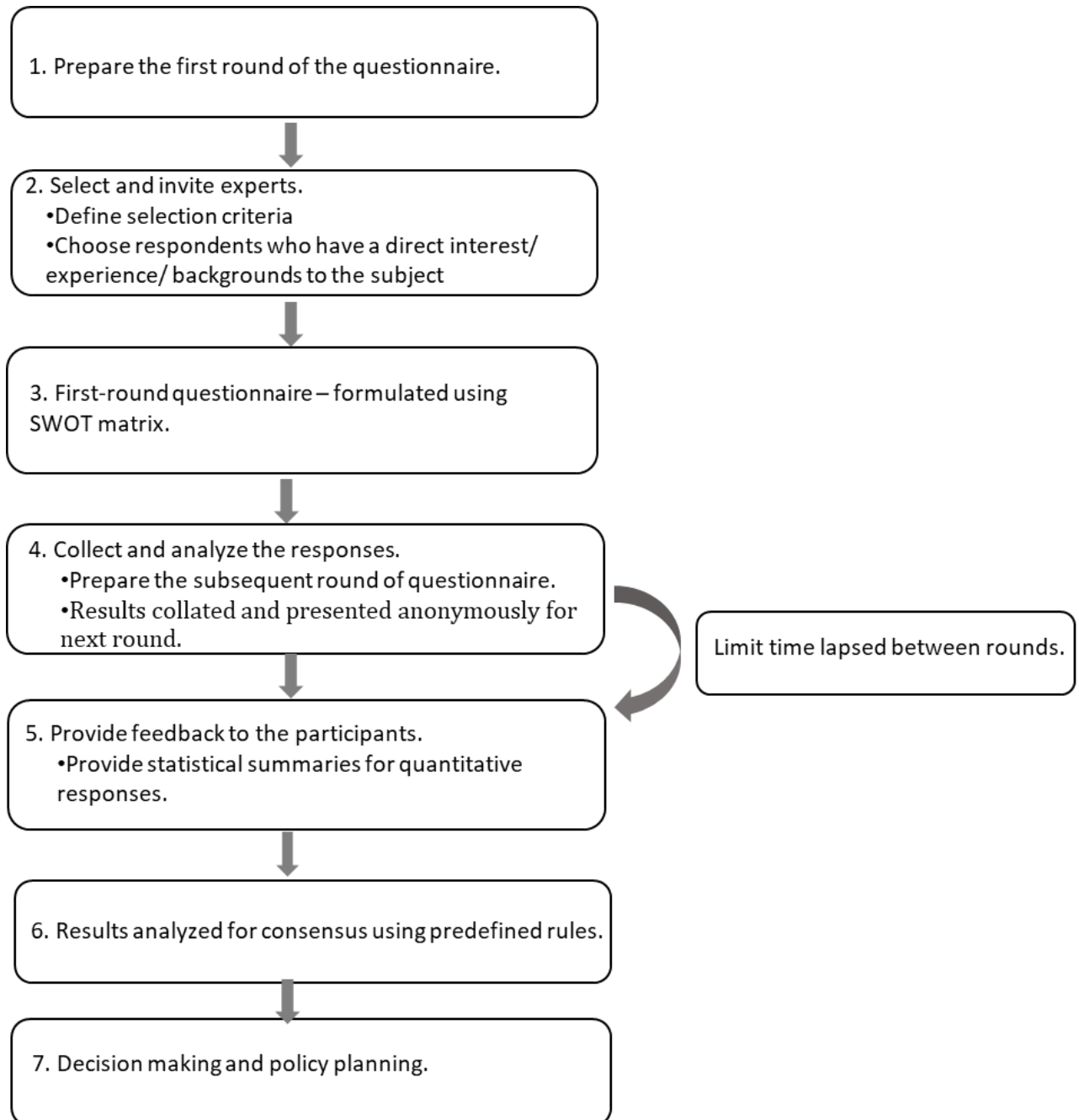


Figure 2. Modified Delphi-SWOT process.

2.4 First round questionnaire

The first-round questionnaire was developed based on a SWOT matrix - Strengths, Weaknesses, Opportunities, Threats for identifying the internal (strengths and weaknesses) and external (opportunities and threats) factors that influence the FQS, SFSC and PSFP. Conventionally, SWOT analyses are qualitative in nature, with no means of determining the priority of individual factors. Still, the present survey employed a quantitative format, where SWOT factors could be rated on a seven-point Likert scale. A Likert scale has been the most common tool that is used to quantify options in a Delphi study (Murry and Hammons, 1995) and particularly the seven-point Likert scale, as it has been shown to achieve more reliability (Nanna and Sawilowsky, 1998). Therefore, during the first round, for each of the statements, experts were asked to indicate the extent of their agreement on a 7-point Likert scale (answering categories: 1=strongly disagree; 2=disagree; 3=somewhat disagree 4=Neither agree nor disagree; 5= somewhat agree; 6=agree; 7=strongly agree).

The statements assessed through the questionnaire were drawn from Task 10.1 (the synthesis of the main findings of Work Packages 3-8), as well as from previous experience and knowledge of the participants in Task 10.2 and involved the following:

- Main findings of farmers' engagement in FQS.
- Findings regarding the economic and social contribution of FQS.
- Findings regarding the consumers' recognition of FQS labels.
- Actions and policies to promote the use of FQS labels as a tool to establish a sustainable food system.
- Findings regarding the influence of PSFP, FQS and SFSC on the development of local economies and rural territories.
- Findings regarding the economic, environmental and social impact of PSFP policies.
- Barriers affecting the development of PSFP.
- Recommendations aimed at optimising the nutritional intake of school meals and reduce plate waste.
- Recommendations aimed at strengthening the role of public sector food procurement policies.
- Findings regarding the qualitative and quantitative assessment of economic, environmental and social sustainability of SFSC.
- Barriers against SFSC development.

Accordingly, the first-round questionnaire incorporated 117 statements, in total, out of which 39 items were included in the section devoted to FQS, 34 in the section for PSFP, whereas the section concerning SFSC contained 44 items. Furthermore, panellists were offered the opportunity to provide their feedback on a recommendation in free text boxes after each section.

2.5 Second round questionnaire

In the second round of the Delphi procedure, each panellist received a questionnaire that included the statements along with their ratings, as calculated from the first round (Hsu and Sandford, 2007; Geist, 2010; Tetzlaff et al., 2012). This second-round questionnaire contained only statements concerning Opportunities and Threats and only those statements that had not met participants' consensus in the first round; statements that obtained a very strong consensus had been excluded from this round. Therefore, the panellists were invited to evaluate, similarly, on a seven-point Likert scale the statements that emerged from the first round, feeding back the group's responses.

The citation of round-one scores for each statement enabled the participants to consider their initial ranking and to compare their answers to those of the members of their expert panel. According to Mead and Moseley (2001), people tend to change their view in light of what other people consider, and so the panellists were provided with an indication of where their judgements fell in relation to the panel as a whole. The second-round questionnaire was sent, similarly, by e-mail to the selected experts, together with an invitation letter, administered only to the experts who answered the first-round questionnaire (Mukherjee et al., 2015).

2.6 Data analysis

The data obtained from each round were analysed via basic descriptive statistics that were calculated for each statement to determine the profile of responses and degree of consensus. Consensus measurement should be considered a fundamental component of data analysis and interpretation in Delphi research. Agreement with statements is usually summarised by using the median and consensus evaluated by using the Interquartile Ranges (IQR) for continuous numerical scales (Jones and Hunter, 1995). To assess the extent of consensus, both a measure of central tendency and distribution were estimated (Murphy et al., 1998).

The IQR was employed to determine and quantify consensus among the panel of experts, as it represents the absolute value of the distance between the 75th and 25th percentiles, with smaller values indicating a higher degree of consensus (it is a measure of dispersion for the median). The IQR is widely used as an objective method for determining consensus and is considered an acceptable way of dealing with extreme values. Commonly, particular IQR value is set as a cutoff for consensus (von der Gracht, 2012).

Given that in the present survey a seven-point Likert scale was used, an IQR of 1.00 or less considered as an indicator of “Very Strong” consensus (Linstone and Turoff, 1975; Jones and Hunter, 1995; Doughty, 2009; De Vet et al., 2005; Rayens and Hahn, 2009). An IQR of less than 1.00 implies that more than 50% of all opinions fall within 1 point on the scale (De Vet et al. 2005). Further, items were categorised as having “Strong” consensus with $1.00 < \text{IQR} \leq 2.00$ (Sabatino, 2010; Rietjens et al., 2017) and “Moderate” consensus with $2.00 < \text{IQR} < 3.00$. Items with an IQR score of 3.00 or more were classified as “Low” consensus.

According to many Delphi studies (i.e., Rayens and Hahn, 2000; De Vet et al., 2004; Trevelyan and Robinson, 2015), statements with an IQR below a predefined level are not included in the next Delphi round, arguing that consensus had been achieved. This process shortens the questionnaire and reduces attrition, whereas the recirculated questions have the chance of gaining a higher rating than what they achieved during the first round (Keeney et al., 2011). Therefore, in the current survey items with IQR values below 1.00 were not recirculated during the second round given that a consensus was already attained.

Apart from the evaluation of the level of consensus, it was essential to estimate the level of agreement, as the IQR method lacks sensitivity in distinguishing the degree of agreement for items, and so a secondary criterion is usually set (Rayens and Hahn, 2000). Accordingly, the median score of the experts’ responses was used to calculate the level of agreement. The median score represents the 50th percentile value of individuals’ opinions, where a score of 5.00 or more, based on a seven-point Likert scale, indicates high agreement (Ferguson et al., 2005; Trevelyan and Robinson, 2015).

2.6.1 Non-parametric tests for statements that met consensus

A series of non-parametric tests were employed for the statements that reached consensus to determine the internal consistency of the items included in the questionnaire and to identify any statistical differences between the countries. These tests involved the following: first, the

Cronbach's alpha test (α) that was applied during each round of the Delphi process to the statements that met consensus, to determine the internal consistency among items, and assess the homogeneity for the ratings of grouped items. The analysis was applied among the items that reached a consensus and were included in the same category (e.g. strength, weakness, opportunity or threat).

Second, the **Kruskal-Wallis test** was employed to explore if there were statistically significant differences between two or more groups of an independent variables; it is suitable for ordinal or rank data (McKight and Najab, 2010). Given that responses on a 7-point Likert scale were treated as ordinal scale variables, the Kruskal Wallis test was applied to ascertain whether or not there were variations in rankings across the five countries. The objective was to determine if differences in the nationality of the respondents influenced the rankings of criteria.

Third, all pairs of groups were subjected to the **Mann-Whitney U test** to identify where these differences existed. The particular test compared the medians between two samples, without assuming that values were normally distributed.

All the statistical analyses for non-parametric tests were performed via the statistical packages SPSS 26 and STATISTICA.

3. RESULTS

In March 2020, the round-one questionnaire was sent to the panellists along with guidelines for its completion. They were invited to answer only the statements that fell into the domain or domains of their expertise. The purpose of this first round was to begin the process of building consensus among the experts. The second-round questionnaire was then mailed to the panellists in July 2020, including a list of 46 items with their ratings. A total of 77 (71.3% of first round) respondents completed and returned it, providing an acceptable response rate through the second round. In all Delphi studies, due to the characteristics of multiple iterations, a lower response rate during various stages of the data collection process is recorded, and several factors can affect the response rate. A recent analysis showed that larger panels, and studies with more items included in the round, had significantly lower response rates (Gargon et al., 2019). According to Jerkins and Smith (1994), percentage rates of the panellists who participate in all rounds ranged from 53% to 87%. Therefore, in this survey, a reasonable response rate was achieved in the second round.

3.1 Panelist characteristics

In this Delphi survey, an endeavour was made to identify the experts who are connoisseurs or have practical engagement in the sector of FQS, or SFSC, or PSFP in primary schools. Accordingly, the panel was composed of experts from five general categories, as referred above, who were identified primarily through personal contacts or from addresses available from universities, government offices and industry associations. Of the persons that were invited, in total, 108 experts participated in the first-round panel and completed the online questionnaire. The field that gathered the largest number of participants was the one related to SFSC, as 55 fully completed questionnaires were received, followed by 48 experts, who answered the questionnaire about FQS, and 29 participants, who answered regarding PSFP. Table 1 presents the distribution of the responses for each field, among the 108 experts in the five countries. During the second round, 77 panellists responded, from whom 42 assessed the statements for FQS, 17 panellists answered the questions for PSFP and 34 experts responded regarding SFSC (Table 2).

Table 1. Round-one responses distribution.

Country	Number of participants	Number of responses	Responses related to FQS	Responses related to PSFP	Responses related to SFSC
Greece	19	23	9	5	9
Italy	31	33	12	7	14
UK	23	31	6	9	16
France	16	21	12	2	7
Serbia	19	24	9	6	9
Total	108	131	48	29	55

Table 2. Distribution of round-two responses.

Country	Number of participants	Number of responses	Responses related to FQS	Responses related to PSFP	Responses related to SFSC
Greece	15	19	9	3	7
Italy	18	20	11	3	6
UK	15	18	5	3	10
France	15	20	12	2	6
Serbia	14	16	5	6	5
Total	77	93	42	17	34

The years of work experience (mean value) of the participants in the three sectors (FQS, SFSC, PSFP) was estimated as **13.9**. In particular, the mean value of years of work experience was 14.51, 11.62 and 15.60 for FQS, PSFP and SFSC experts, respectively.

Regarding FQS, 48 experts in total completed the first online questionnaire, where Italians and French experts had greater representation. The panel consisted of an interdisciplinary group comprising experts from a range of professions like project and company managers (with the highest participation rate), entrepreneurs or employees in agri-food companies, governmental officials, academics, researchers, producers, an analyst and a consultant, a food technologist, caterers and an engineer in agriculture. Table 3 shows the participants from all working groups of each country.

Table 3. Professional status of the Delphi panellists participated in the FQS survey.

Job position	Greece	Italy	UK	France	Serbia	N	Percentage
Manager (project/company)		1	2	6	1	10	20.8%
Agri-food entrepreneur /employee	4	3				7	14.6%
Researcher		4		3		7	14.6%
Governmental official	1	4		1		6	12.5%
Professor/Academic			1	1	2	4	8.3%
Company director	1		1		2	4	8.3%
Producer	1		1			2	4.2%
Analyst/Consultant			1	1		2	4.2%
Caterer	1				1	2	4.2%
Policymaker	1					1	2.1%
Food technologist					1	1	2.1%
Engineer in agriculture					1	1	2.1%
Teacher					1	1	2.1%
Total	9	12	6	12	9	48	100%

As for the SFSC, the first-round questionnaire was completed by 29 experts, with the majority coming from the UK, followed by Italy, Serbia, Greece and France. In this field, the experts were mainly related to school meals, such as teachers / school administrators and caterers, along with company managers, researchers, professors, an agri-food employee and a lawyer (Table 4).

Table 4. Professional status of the Delphi panellists participated in the PSFP survey.

Job position	Greece	Italy	UK	France	Serbia	N	Percentage
Teacher/School admin staff	3				5	8	27.6%
Manager (project/company)		2	4	1		7	24.1%
Researcher		1	2	1		4	13.8%
Governmental official		3				3	10.3%
Professor/Academic			2			2	6.9%
Caterer	1					1	3.4%
Policymaker	1					1	3.4%
Analyst			1			1	3.4%
Agri-food employee		1				1	3.4%
Lawyer					1	1	3.4%
Total	5	7	9	2	6	29	100%

With regard to SFSC, the first-round questionnaire received responses from 55 experts, with the largest representation from the UK, followed by Italy, whilst nine participants were from Greece and Serbia and seven from France. They were mostly project and company managers, entrepreneurs or employees in agri-food companies, producers, academics and professors, researchers, directors, governmental officials, analysts, policymakers, caterers, a food technologist and an engineer in agriculture (Table 5).

Table 5. Professional status of the Delphi panellists participated in the SFSC survey.

Job position	Greece	Italy	UK	France	Serbia	N	Percentage
Manager (project/cooperatives)	2	1	5	3		11	20.0%
Agri-food entrepreneur/employee	1	7	1			9	16.4%
Producer	3		4	1		8	14.5%
Professor/Academic	2		4	1		7	12.7%
Researcher		3	1		1	5	9.1%
Director (company/cooperatives)			1		2	3	5.5%
Governmental official		3				3	5.5%
Analyst/Consultant				1	2	3	5.5%
Policymaker	1			1		2	3.6%
Caterer					2	2	3.6%
Food technologist					1	1	1.8%
Engineer in agriculture					1	1	1.8%
Total	9	14	16	7	9	55	100%

3.2 General findings from the first-round survey

During the first round, 16 (13,7%) of the 117 statements received a very strong consensus (IQR of 0 or 1), and 13 (11,1%) statements a firm agreement (a median score of 5 or higher). The consensus was reached for eight statements related to FQS, six statements related to the PSFP, and two statements regarding SFSC. The distribution of responses about the degree of consensus, in each field, is depicted below (Figure 3). The chart contains all statements, with a **very strong consensus** (i.e., $IQR \leq 1$), **strong consensus** (i.e., $1 < IQR \leq 2$), **moderate consensus** (i.e., $2 < IQR < 3$) and **low consensus** (i.e., $IQR \geq 3$).

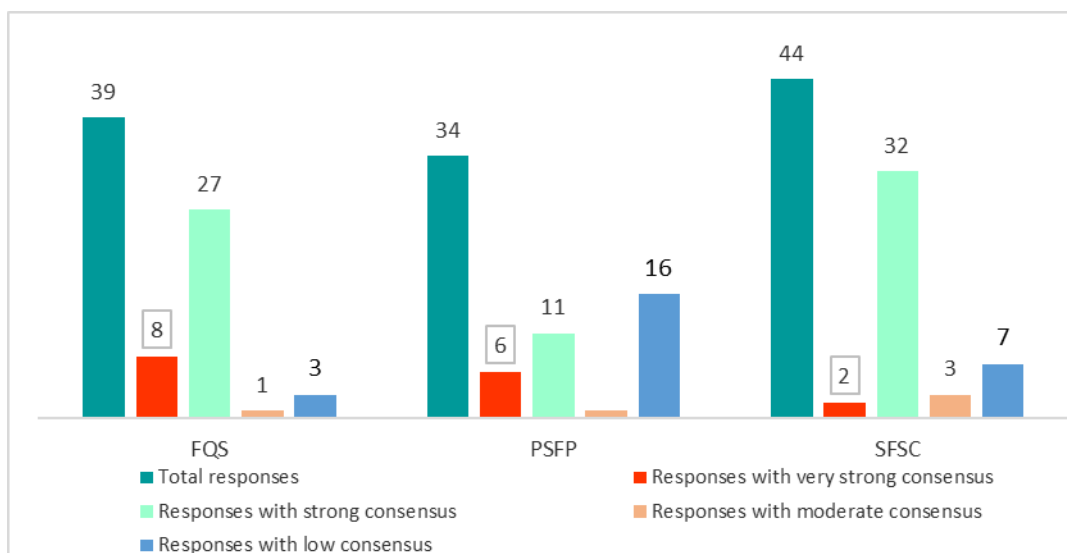


Figure 3. Distribution of responses about the degree of consensus (first-round results).

The key criterion set to assess the level of consensus was the interquartile range, and hence, statements that met this criterion were not included in the second round. These statements related to FQS (eight items), six statements referred to PSFP, and two regarding PSFP. A high percentage was also recorded for the statements with strong consensus, in all fields. In total, 26 items failed to reach consensus (16 in PSFP, seven in SFSC and three in FQS), whereas, regarding the level of agreement, a high convergence to an agreement was achieved among experts for the majority of the statements.

3.3 Findings from the first round of the Delphi survey for FQS

Out of the 39 statements related to the field of FQS labels, eight obtained a very strong consensus from the first round, while seven achieved high agreement. Among the statements that met very strong consensus and agreement, three statements related to strengths, and two to opportunities and threats, respectively. In particular, panellists agreed that “the profit generated per employee at the farm and processing levels for FQS products is higher than that generated at the same levels of the agri-food chain of respective products” (*Q.1*). Moreover, they concur that “products with an FQS could improve the bargaining power of farmers and food processors” (*Q.2*) and also that “FQS generate better employment opportunities for workers in farming and food processing” (*Q.3*). Strategies that were considered essential for the future are a) the placement of FQS labels on the EU market, a fact that could enhance intra-EU trade of agri-food products (*Q.4*), and b) the provision of producers with better market intelligence to understand consumer demand could incentivise firms to supply food products with FQS labels (*Q.5*). It is noted that the questionnaires were

distributed to Serbian experts did not include questions related to EU policies, EU market and EU labeling. It would be hard for experts to answer these questions as Serbia remains a candidate country until joining EU and they may have not relevant experience.

The results also denote that inhibitors for FQS development are consumers' poor knowledge regarding their meaning (*Q.7*) and the fact that consumers do not understand the differences between FQS labels (e.g. PDO, PGI and TSG) (*Q.8*). Finally, one statement the experts considered as a threat but agreed with a moderate level of convergence, was that consumers value some of the ethical attributes of food products (such as animal welfare, environmentally friendly production, or fair trade), as being more important than labels of geographical origin) (*Q6*). Table 6 summarises these statements along with their IQRs, median and Cronbach's alpha values.

For grouped statements that referred to the strengths of FQS, the Cronbach's alpha value coefficient was estimated as 0.77, whereas the value for the opportunities for strengthening FQS was 0.70, indicating a strong internal consistency of answers and a high level of reliability for the presented items. As for the grouped statements regarding the threats that impinge on the development of FQS labels, the Cronbach's alpha coefficient was 0.66, demonstrating a low internal consistency.

The Kruskal-Wallis test was used to analyse variations in the statement's rating across countries. The test for the statements *Q.2* and *Q.3*, about FQS's contribution to improving the bargaining power of farmers and food processors within food supply chains and to generate better employment opportunities for workers, produced a large *H* of 20.09 and 16.00 respectively. This finding shows that the differences among sums of ranks are statistically significant ($P < 0.05$) at the .001 and .003 level, respectively. The Kruskal-Wallis test was applied to all statements that gained consensus. From the results (Table 6) it is evident that for all the examined items that constitute threats for FQS (statements *Q6*, *Q7*, *Q8*), there is a statistically significant difference ($P < 0.05$) between the five participant countries.

Table 6. Round one ratings and p-values from Kruskal-Wallis test for the statements of FQS that reached consensus.

Statements	IQR	Mdn	Kruskal–Wallis test	
			<i>H</i>	<i>P-value</i>
Strengths				
Cronbach’s alpha: 0.77				
<i>Q.1.</i> The profit generated per employee at the farm and processing levels for FQS products is higher than that generated at the same levels of the agri-food chain of respective products without an FQS.	1	5	6.03	0.196
<i>Q.2.</i> Products with an FQS improve the bargaining power of farmers and food processors within food supply chains.	1	5	20.09	<0.001
<i>Q.3.</i> Products with an FQS generate better employment opportunities for workers in farming and food processing.	1	5	16.00	0.003
Opportunities				
Cronbach’s alpha: 0.70				
<i>Q.4.</i> Supporting products with an FQS label on the EU market could enhance the intra-EU trade of agri-food products. ²	1	5		0.608
<i>Q.5.</i> Providing producers with better market intelligence to understand consumer demand could incentivise firms to supply food products with FQS labels.	1	5		0.013
Threats				
Cronbach’s alpha: 0.66				
<i>Q.6.</i> Consumers rate some of the ethical attributes of food products, such as animal welfare, environmentally friendly production, or fair trade, as being more important than labels of geographical origin.	1	4	12.29	0.015
<i>Q.7.</i> Consumers are confused by food quality labels and often possess little knowledge about their meaning.	1	6	21.43	<0.001
<i>Q.8.</i> Consumers do not understand the differences between FQS labels (e.g. PDO, PGI and TSG).	1	6	15.15	0.004

Note. Statistically significant values are in bold ($p < .05$).

In addition, employing the Mann-Whitney *U*-test for non-parametric data, it was feasible to assess differences in the responses of experts from different countries. The analysis, encompassing a test for pairwise comparisons, indicates significant statistical variation in the median values for three countries, Greece, the United Kingdom and Serbia. The level for statistical significance was set at $p < 0.05$. Tables 7 to 12 list the significant

² The analysis does not include responses from Serbian experts, as Serbia is an EU candidate country, while the subject statements assess current situation in the investigated countries on EU regulations.

differences between pairs of countries, and Figures 4 to 11 depict the boxplots of mean values. Additional information about the categorised histogram with values from the Likert scale, for each variable in different countries, is provided in Appendix I.

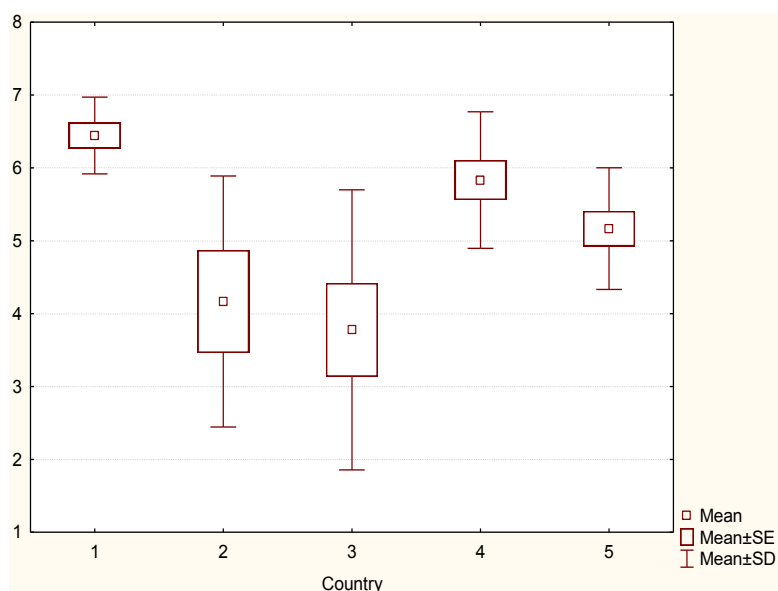
For the statement *Q.2*, the results show a significant statistical variation in the values between the Greek and the UK responses, and between the Greek and the Serbian responses as well. For the statement *Q.3*, the Mann-Whitney *U*-test detected significant differences between the median values of responses from Serbia and Greece and responses from Serbia and France, whereas for *Q.5* only two countries exhibited a significant difference, namely Greece and Serbia. Mann-Whitney *U*-tests were also performed on pairs for the statements *Q.6*, *Q.7* and *Q.8* to assess the patterns of responses. For *Q.6*, there are no significant differences between all possible pairs; still, a tendency for differences appeared between the UK and Greece, and between the UK and Serbia. For *Q.7*, the results indicate a significant divergence in the evaluations of Serbian experts compared with experts from other countries. Remarkably, there is a significant statistical variation in the values between Serbia and the UK, Serbia and Italy and Serbia and France. Finally, for *Q.8*, the analysis revealed a difference of data collected from the UK and the Serbian Delphi panel of experts.

As presented in Table 7, Greek experts ranked the contribution of products with FQS to the bargaining power of farmers and food processors as an essential factor that could reinforce these products within food supply chains. However, the same statement received relatively low mean ratings by the UK and Serbian participants.

Table 7. Pairwise comparisons between countries by the Mann-Whitney U test for statement *Q.2*.

Country	<u>Multiple comparisons <i>P</i>-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	0.019	0.002	1.000	0.085
UK		1.000	0.289	1.000
SRB			0.074	1.000
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).

**Figure 4.** Boxplots of the mean values of statement *Q.2*, for data from five different countries.

Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

As evident from Table 8 and Figure 5, experts' opinions differed on whether products with an FQS could generate better employment opportunities for workers in farming and food processing. Panellists from Greece and France evaluate this statement higher than those from Serbia.

Table 8. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.3*.

Country	<u>Multiple comparisons <i>P</i>-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	1.000	0.029	1.000	1.000
UK		0.745	1.000	1.000
SRB			0.003	0.062
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).



Figure 5. Boxplots of the mean values for statement *Q.3*, for data from five different countries.

Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

The Mann-Whitney U test revealed a difference in the way experts rated the benefit that could arise for products with FQS labels by providing producers with better market intelligence to understand consumer demand (*Q.5*). As presented in Table 9, experts from Serbia ranked this opportunity lower than the other experts, particularly those from Greece.

Table 9. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.5*.

Country	<u>Multiple comparisons <i>P</i>-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	0.597	0.009	0.295	1.000
UK		1.000	1.000	1.000
SRB			1.000	0.436
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).



Figure 6. Boxplots of the mean values of statement *Q.5*, for data from five different countries.

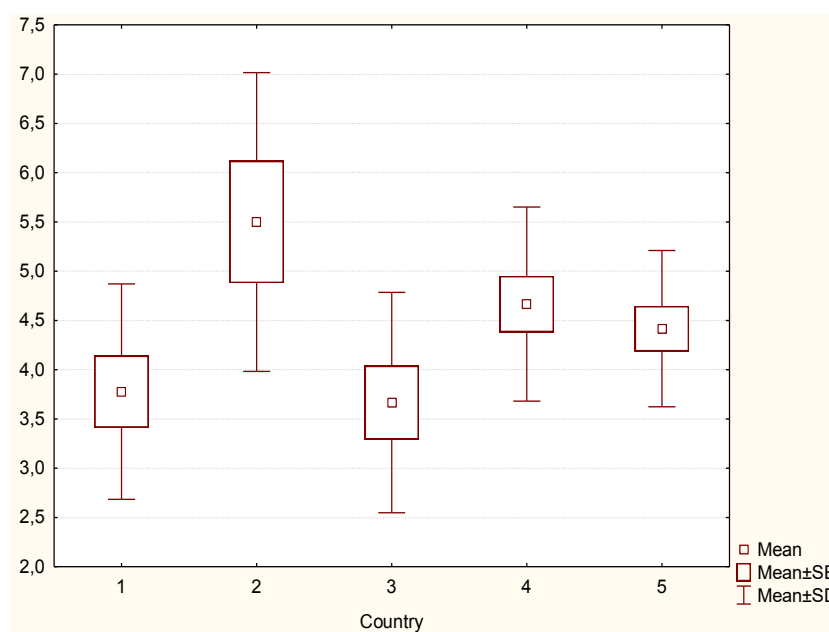
Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

Consumers' higher rating for some of the ethical attributes of food products, rather than labels of geographical origin, has been identified as an essential threat by UK experts (Table 10). However, this statement received a considerably lower ranking in all other countries.

Table 10. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.6*.

Country	<u>Multiple comparisons P-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	0.091	1.000	0.370	1.000
UK		0.093	1.000	1.000
SRB			0.378	1.000
FR				1.000

Note. The tendency for statistical differences is in bold blue.

**Figure 7.** Boxplots of the mean values of statement *Q.6*, for data from five different countries.

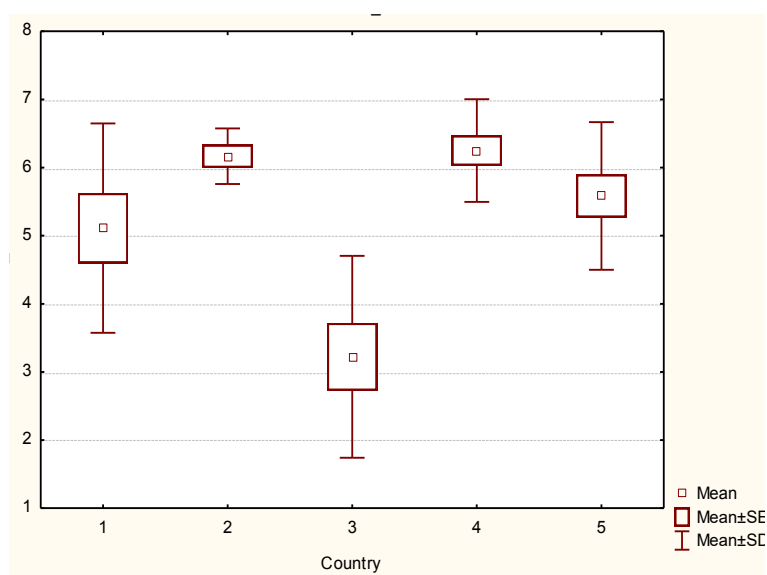
Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

The statement about consumers' confusion regarding food quality labels and their poor knowledge about their meaning has been identified as a barrier for FQS, by experts from all countries (Table 11). Therefore, this statement received high ratings by the Italian, UK, France and Greek participants, except for the Serbian experts. Table 11 shows the results and Figure 8 depicted the boxplots of the mean values of the statement.

Table 11. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.7*.

Country	<u>Multiple comparisons <i>P</i>-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	1.000	0.442	0.514	1.000
UK		0.010	1.000	1.000
SRB			0.0004	0.032
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).

**Figure 8.** Boxplots of the mean values of statement *Q.7*, for data from five different countries.

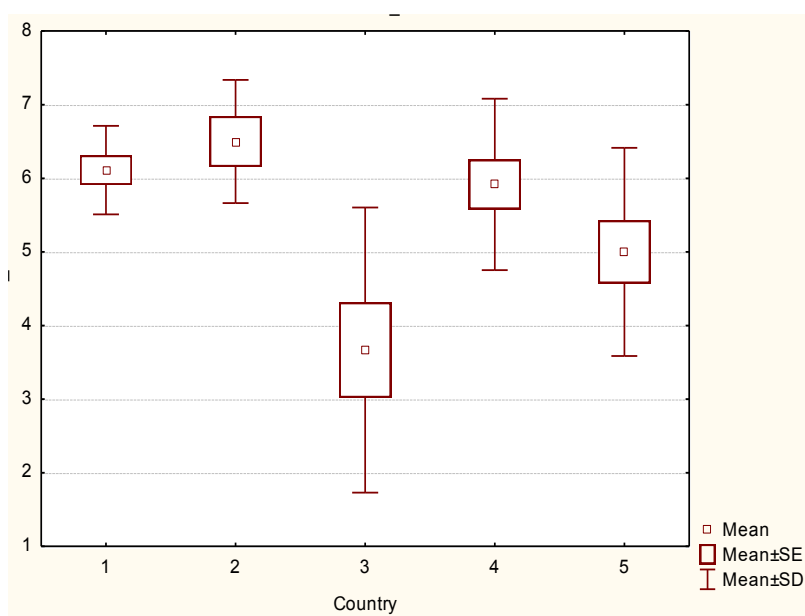
Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

The Mann–Whitney U tests indicated that experts from Serbia differed significantly compared to the others, mainly to UK experts, regarding the statement about consumers' understanding of the differences between FQS labels (e.g. PDO, PGI and TSG). Experts from Serbia ranked this threat as very low (Table 12 and Figure 9).

Table 12. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.8*.

Country	<u>Multiple comparisons P-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	1.000	0.107	1.000	1.000
UK		0.019	1.000	0.233
SRB			0.091	1.000
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).

**Figure 9.** Boxplots of the mean values of statement *Q.8*, for data from five different countries.

Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

3.4 Findings from the first round Delphi survey for PSFP

Thirty-four statements were assessed for PSFP, out of which six statements reached consensus. Five statements achieved a median score of six or higher, revealing a very high level of agreement, whereas, for one item, a moderate level of agreement was reached. Among the four opportunities/strategies that were considered vital by agreement, the experts valued highly the recommendations *Q.11*, relating to “better monitoring and actions to reduce plate waste in canteens”. Other strategies for strengthening the PSFP that were valued greatly

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among experts were: i) the setting up in-schools multi-stakeholder forums to discuss meals and to work collaboratively on menu development (*Q.10*), ii) arranging food supplier field trips/in-class events, as part of food and health curriculum (*Q.12*), iii) revising job roles and career progression of catering staff (*Q.13*). Moreover, experts agreed that the lack of rules on the procurement of soft drinks accompanying primary school meals (*Q.9*) constitutes a weakness in strengthening the role of PSFP. Finally, budget pressures affecting spend on food (*Q.14*), similarly puts PSFP in a precarious position.

The Cronbach's alpha values did not provide evidence for internal consistency across the items, which is unsurprising given their disparate nature. On the other hand, the Kruskal-Wallis test indicated that there was a significant difference in the ranking criteria used by experts, across the different countries, to evaluate the recommendation for better monitoring and actions to reduce plate waste in canteens. About the rest of the statements, it seems that respondents' nationality did not influence their ranking.

Table 13. Round one ratings and p-values from Kruskal-Wallis test for the statements of PSFP that reached consensus.

Statements	IQR	Mdn	Kruskal–Wallis test	
			<i>H</i>	<i>P-value</i>
Weakness				
<i>Q.9.</i> There is a lack of rules on the procurement of soft drinks to accompany primary school meals (other than milk and water)	1	4	2.91	0.572
Opportunities				
Cronbach's alpha: 0.61				
<i>Q.10.</i> Setting up in-schools multi-stakeholder forums to discuss meals (e.g. suppliers, catering staff, pupils, headteachers, etc.), to work collaboratively on menu development.	1	6	8.12	0.087
<i>Q.11.</i> Better monitoring of, and actions, to reduce plate waste in canteens.	1	7	10.16	0.038
<i>Q.12.</i> Arranging food supplier field trips/in-class events, as part of the food and health curriculum.	1	6	5.16	0.271
<i>Q.13.</i> Revising job roles and career progression of catering staff.	1	6	8.66	0.070
Threats				
<i>Q.14.</i> Budget pressures affecting spend on food.	1	6		

Note. Statistically significant values are in bold ($p < .05$).

The Mann–Whitney test was performed on pairs for the five countries to detect significant differences between the median values of the statement *Q.11*. The test indicated that experts from two countries (Greece and Serbia) differ significantly. Table 14 shows the results and Figure 10 depicts the differences in ranking of the recommendation about undertaking actions to reduce plate waste in canteens.

Table 14. Pairwise comparisons between countries by the Mann-Whitney U test for statement *Q.11*.

Country	<u>Multiple comparisons P-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	1.000	0.091	1.000	1.000
UK		0.246	1.000	1.000
SRB			1.000	0.223
FR				1.000

Note. The tendency for statistical differences is in bold blue.

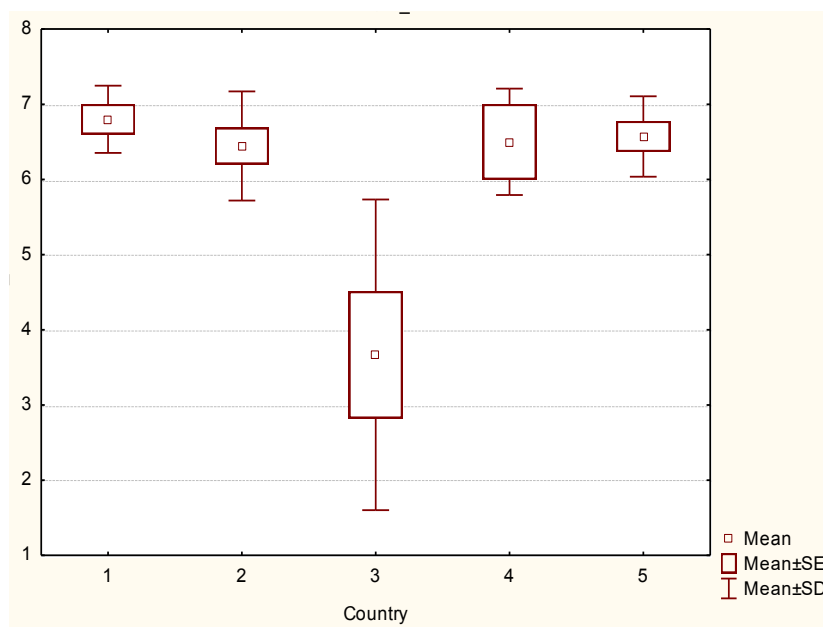


Figure 10. Boxplots of the mean values of statement *Q.11*, for data from five different countries.

Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

3.5 Findings from the first round of Delphi survey for SFSC

Forty-four statements were assessed for SFSC, out of which two attained consensus, and were removed from the second stage of the Delphi procedure. These statements were a) the consumers' greater knowledge of food products and place of their provenance (*Q.15*) and b) the greater contribution of FQS in gender balance (*Q.16*). The first one constitutes also a concept that gained broad agreement among experts.

The Cronbach's (α) coefficient reveals a lack of internal consistency in how the statements were ranked, which again is unsurprising given their disparate nature. Whereas the Kruskal-Wallis test implied that for one statement there is a high H value of 18.38, indicating a statistically significant difference ($p < 0.05$) in the way experts ranked the statement "consumers' greater knowledge of food products and place of provenance" (Table 15).

Table 15. Round one ratings and p-values from Kruskal-Wallis test for the statements of SFSC that reached consensus.

Statements	IQR	Median	Kruskal–Wallis test	
			H	P -value
Strengths				
Cronbach's alpha: 0.50				
<i>Q.15.</i> Consumers' greater knowledge of food products and place of provenance.	1	6	18.38	0.001
<i>Q.16.</i> Greater contribution in terms of gender balance (e.g. greater employment of women in the logistics and retail activities).	1	4	8.90	0.064

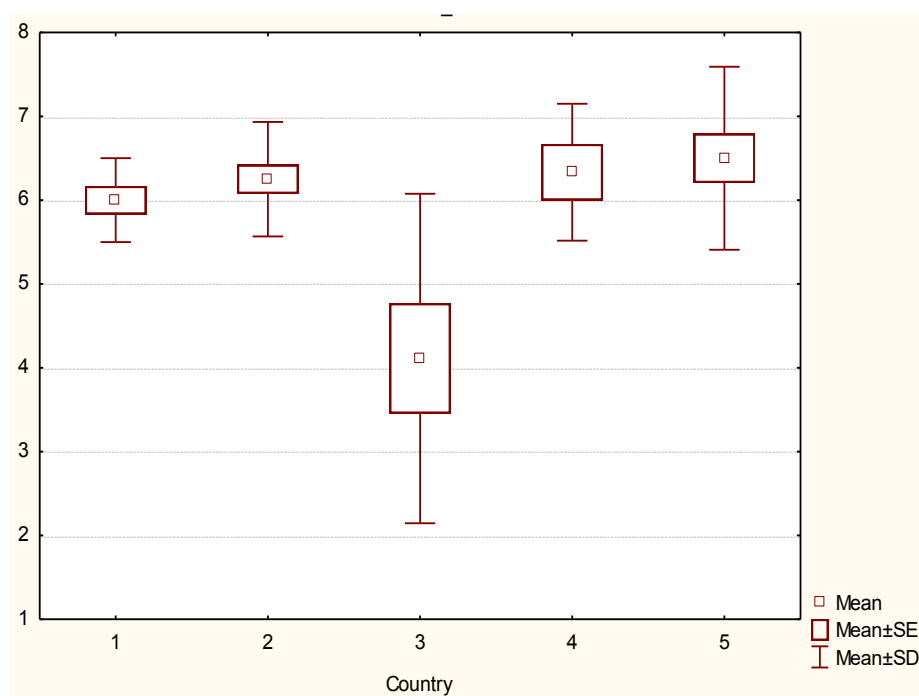
Note. Statistically significant values are in bold ($p < .05$).

Statement *Q.15* was further explored by post hoc pairwise Mann–Whitney U tests to investigate which country differed from the others. The results (Table 16 and Figure 11) show that the differences are observed, mainly comparing Serbian experts' responses to those from Italy and UK.

Table 16. Pairwise comparisons between countries by the Mann-Whitney U test for the statement *Q.15*.

Country	<u>Multiple comparisons P-values (two-tailed)</u>			
	UK	SRB	FR	IT
GR	1.000	0.664	1.000	0.612
UK		0.041	1.000	1.000
SRB			0.122	0.001
FR				1.000

Note. Statistically significant values are in bold red ($p \leq .05$).

**Figure 11.** Boxplots of the mean values of statement *Q.15*, for data from five different countries.

Note. Value 1 indicates GR, Value 2 indicates the UK, Value 3 indicates SRB, Value 4 indicates FR, Value 5 indicates IT.

3.6 General findings from the second-round Delphi survey

Sharing the results from the first round to elicit reactions from panellists, we asked them to identify the Opportunities and Threats regarding FQS, PSFP and SFSC. As mentioned previously, the second round of the Delphi survey focused on Opportunities and Threats for the three fields investigated. The revised questionnaire included 26 statements/recommendations along with a summary of the ratings of each item resulting from

the previous round. Also, it was sent only to experts who participated in the first round and as expected, the second round had fewer respondents than round one. Out of the 108 questionnaires sent to all initial participants, 77 were returned and analysed, providing a response rate of 71.3%.

This second round identified nine statements that reached a consensus, and all of them attained a very high level of agreement. The distribution of responses in relation to the degree of consensus is illustrated in Figure 12.

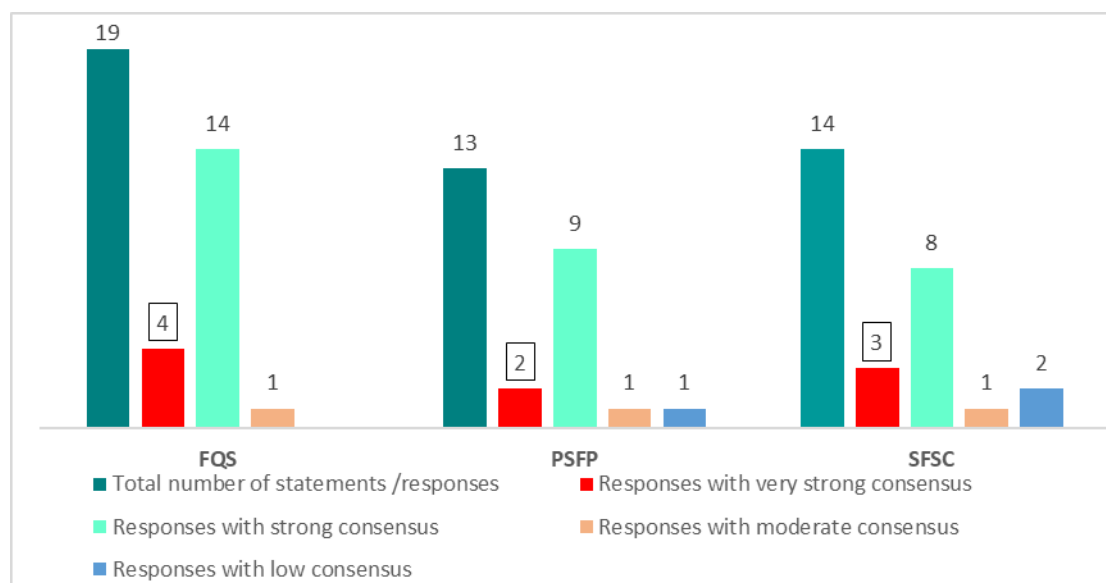


Figure 12. Distribution of responses about the degree of consensus (second round results).

Most of the statements that obtained consensus were related to FQS, however, the category that recorded the higher percentage of consensus, in an internal evaluation, was SFSC given that a percentage of 21.4% (3 out of 14) of the statements attained consensus. This was followed by the FQS statements with 21% (4 out of 19) and PSFP with 15.4% (2 out of 13). This finding reaffirms previous studies in which the degree of consensus increased in the second round of the Delphi process for most questionnaire items. Table 17 presents an overview of the degree of consensus obtained during the two stages of the survey.

Table 17. Changes in consensus level between the first and the second rounds.

Level of consensus	First-round results		Second-round results	
	N	%	N	%
Responses with very strong consensus	16	13,7	9	19,6
Responses with strong consensus	70	59,8	31	67,4
Responses with moderate consensus	5	4,3	3	6,5
Responses with low consensus	26	22,2	3	6,5
Total number of responses	117		46	

For the grouped statements regarding the opportunities for FQS and threats for SFSC, the Cronbach's alpha was computed, obtaining values of 0.56 and 0.58, respectively that indicated a low internal consistency of responses. Additionally, the statements that reached consensus were subjected to a Kruskal–Wallis test for possible differences between countries, with the findings revealing no significant differences between the experts' country of origin and the way they evaluated the statements.

3.7 Findings from the second round of the Delphi survey for FQS

Nineteen statements related to the FQS were assessed during the second round, out of which four statements attained consensus. These items referred to the opportunities/strategies for the future of FQS products. Among them were the recommendations for a) EU and national policies on FQSS, which could enhance sales on international markets³ (*Q.17*), b) the reinforcement of FQS schemes to generate public goods and to develop stronger coherence and coordination with other EU policies⁴ (*Q.18*), c) better communication and marketing of organic products that could increase consumer demand (*Q.19*), and d) using Geographical Indication (GI) products as ingredients in “new” products to represent an opportunity for the expansion of products with a GI (*Q.20*). For all statements, a high convergence to an agreement was achieved among experts. The degree of consensus, along with the *p-values* from the Kruskal-Wallis test, are presented in the following Table 18.

^{3,3} The analysis does not include responses from the Serbian experts, as Serbia is an EU candidate country.

Table 18. Round two ratings for the statements for FQS that reached consensus and p-values from Kruskal-Wallis test.

Statements	IQR	Median	Kruskal–Wallis test	
			<i>H</i>	<i>P-value</i>
Opportunities Cronbach’s α: 0.65	1	6		
<i>Q.17.</i> EU and national policies on FQSs could enhance sales in international markets. ⁵	1	6	0.41	0.938
<i>Q.18.</i> The potential of FQS schemes to generate public goods is still underutilised and stronger coherence and coordination with other EU policies. ⁶	1	6	2.27	0.518
<i>Q.19.</i> Better communication and marketing of organic products could increase consumer demand.	1	6	8.99	0.061
<i>Q.20.</i> Using Geographical Indication (GI) products as ingredients in “new” products could represent an opportunity for the expansion of products with a GI if a proper protection regulation is put in place.	1	5	4.22	0.376

3.8 Findings from the second round of the Delphi survey for PSFP

The analysis of the experts’ responses during the second stage of the Delphi survey indicated an opportunity/strategy that may strengthen the PSFP and a critical threat that may hinder its development. Respondents, on the one hand, considered that the existence of policies that encourage the greater use of environmental and socio-economic criteria in procurement contract awards could reinforce PSFP (*Q.21*). On the other hand, budget pressures affecting spend on staff, exert a negative effect on food procurement in primary schools (*Q.22*) (Table 19).

^{4,5} The analysis does not include responses from the Serbian experts, as Serbia is an EU candidate country.

Table 19. Round two ratings for the statements for PSFP that obtained consensus and p-values from Kruskal-Wallis test.

Statements	IQR	Median	Kruskal–Wallis test	
			<i>H</i>	<i>P-value</i>
Opportunity				
<i>Q.21.</i> Policies that encourage greater use of and weight is given to, environmental and socio-economic criteria in procurement contract awards.	1	6	2.68	0.613
Threat				
<i>Q.22.</i> Budget pressures affecting spend on staff (e.g. catering staff, canteen supervisors).	1	7	4.92	0.295

3.9 Findings from the second round of the SFSC Delphi survey

Fourteen statements related to SFSC in the second round of the Delphi analysis; out of which three statements achieved a very strong consensus and a high agreement. Among them, one comprised an opportunity, and two were considered as threats. Experts regarded that creating an EU labelling scheme for SFSCs could increase consumers' recognition (*Q.23*). However, the seasonality of sales (*Q.24*) and consumers' low willingness to pay more for products traded in SFSCs (*Q.25*) may hinder their development (Table 20).

The Cronbach's *a* test applied to threats revealed a low internal consistency of responses, whereas the Kruskal–Wallis test employed to evaluate possible differences due to the nationality of the experts revealed no variation in the rankings across countries.

Table 20. Round two ratings for the statements for SFSC that obtained consensus and p-values from Kruskal-Wallis test.

Statements	IQR	Median	Kruskal–Wallis test	
			<i>H</i>	<i>P-value</i>
Opportunity				
<i>Q.23.</i> Creating an EU labelling scheme for SFSCs could increase consumer recognition. ⁷	1	5	3.90	0.272
Threats				
Cronbach's α: 0.58				
<i>Q.24.</i> Seasonality limits regular sales and all-year-round demand.	1	5	3.14	0.535
<i>Q.25.</i> Consumers' price sensitivity and low willingness to pay.	1	6	1.13	0.889

⁷ The analysis does not include responses from the Serbian experts, as Serbia is an EU candidate country.

4. SUMMARY AND CONCLUSIONS

The present study aims at providing specific policy and practical recommendations for policymakers and stakeholders to improve the effectiveness of FQSs such as PDO/PGI/Organic, PSFP in primary schools and SFSC. Particularly, the objective is to identify points of convergence among experts about the key Strengths and Weaknesses that can improve FQS, PSFP and SFSC. This was achieved through the application of a two-round hybrid Delphi framework on a group of panellists in five EU countries. In addition, this work endeavours to construct an integrated picture of the opportunities or strategies that strengthen these policy schemes along with threats or deficiencies that may confine the development of the agri-food sector in the EU.

The Delphi survey was conducted with an international task force consisting of 108 recognised experts, from different professional fields, who came from five countries (Greece, Italy, the United Kingdom, France, Serbia) and was designed to build a systematic consensus on the agri-food chain. The factors examined during the survey were based on the project's previous findings (main findings of Work Packages 3 to 8) and the related experience of researchers.

Findings reveal that FQSs labels can improve: the bargaining power of farmers and food processors within food supply chains and generate better employment opportunities for workers in farming and food processing. Moreover, FQS products can produce further economic benefits for the agri-food chain, given that they generate higher profit per employee at the farm and processing levels.

According to the experts' views, some essential opportunities to support the products with an FQS label could emerge within the framework of EU policies and intra-EU trade of agri-food products. Further, obtaining market intelligence could prove to be an invaluable step towards understanding and increasing consumer demand for FQS products. However, consumers' poor knowledge and confusion about the origin of the FQS labels impedes efforts to expand the sales of FQSs labelled products. An extra barrier for their sales could be the consumer's prioritisation of product attributes related to animal welfare, environmentally friendly production, or fair trade. Table 21 summarises the results obtained from the Delphi analysis for the FQS.

Table 21. Matrix of the SWOT factors for FQS.

Strengths	Weaknesses
<ul style="list-style-type: none"> • The profit generated per employee at the farm and processing levels for FQS products is higher than that generated at the same levels of the agri-food chain of respective products without a FQS. • Products with an FQS improve the bargaining power of farmers and food processors within food supply chains. • Products with an FQS generate better employment opportunities for workers in farming and food processing. 	<ul style="list-style-type: none"> • Food supply chain practitioners often do not understand the FQS schemes and the differences between them. • Often slow process of registration. • Official registration does not automatically increase consumers' recognition of FQS products.
Opportunities	Threats
<ul style="list-style-type: none"> • Supporting products with an FQS label on the EU market could enhance intra-EU trade of agri-food products.⁸ • Providing producers with better market intelligence to understand consumer demand could incentivise firms to supply food products with FQS labels. • EU and national policies on FQSs could enhance sales in international markets.⁹ • The potential of FQS schemes to generate public goods is still underutilised and stronger coherence and coordination with other EU policies.¹⁰ • Better communication and marketing of organic products could increase consumer demand. • Using Geographical Indication (GI) products as ingredients in “new” products could represent an opportunity for the expansion of products with a GI if a proper protection regulation is put in place. 	<ul style="list-style-type: none"> • Consumers rate some of the ethical attributes of food products, such as animal welfare, environmentally friendly production, or fair trade, as being more important than labels of geographical origin. • Consumers are confused by food quality labels and often possess little knowledge about their meaning. • Consumers do not understand the differences between FQS labels (e.g. PDO, PGI and TSG).

The results from the application of the Delphi framework for the PSFP revealed that the establishment of in-school multi-stakeholder forums to discuss meals and to work

⁸⁻⁹ The analysis does not include responses from the Serbian experts, as Serbia is an EU candidate country.

collaboratively on menu development, the arranging of food supplier field trips, as well as the revision of job roles of catering staff could be significant challenges for enhancing pupils' access to nutritious, balanced meals and improving their diets (Table 22). Among the findings, an opportunity emerged that relates to the environmental benefits of better school meals management. In particular, according to experts, better monitoring needs to be implemented to reduce plate waste in the canteen and to mitigate the environmental footprint of the meals. However, budget pressures that affect spend on food and staff (e.g. catering staff, canteen supervisors) exert a negative influence on the PSFP and put it in a precarious position.

Table 22. Matrix of the SWOT factors for PSFP.

Strengths	Weaknesses
<ul style="list-style-type: none"> • PSFP can provide income and employment opportunities for agri-food chain actors • PSFP rules can allow for stipulating a degree of local and organic sourcing, creating opportunities for quality food producers 	<ul style="list-style-type: none"> • There is a lack of rules on the procurement of soft drinks to accompany primary school meals (other than milk and water).
Opportunities	Threats
<ul style="list-style-type: none"> • Setting up in-schools multi-stakeholder forums to discuss meals (e.g. suppliers, catering staff, pupils, headteachers, etc.), to work collaboratively on menu development. • Better monitoring of, and actions, to reduce plate waste in canteens. • Arranging food supplier field trips/in-class events, as part of the food and health curriculum. • Revising job roles and career progression of catering staff. • Policies that encourage greater use of and weight is given to, environmental and socio-economic criteria in procurement contract awards. 	<ul style="list-style-type: none"> • Budget pressures affecting spend on food. • Budget pressures affecting spend on staff (e.g. catering staff, canteen supervisors).

Finally, regarding the field of SFSC, the factors that were valued highly by experts were those related to consumers' greater knowledge of food products and place of their provenance, as well as the more significant contribution of FQS in gender balance. Furthermore, the creation of an EU labelling scheme for SFSCs was identified as a contributing factor to strengthen the effectiveness of SFSC, given that it could increase consumer recognition for SFSC (Table 23). Concerning the threats in the development of the SFSC, seasonality that limits regular sales and the consumers' low willingness to pay more for products traded in SFSCs recognised as critical threats that may hinder the development of SFSC.

Table 23. Matrix of the SWOT factors for SFSC.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Consumers' greater knowledge of food products and place of provenance. • Greater contribution in terms of gender balance (e.g. greater employment of women in the logistics and retail activities). 	<ul style="list-style-type: none"> • SFSC are often small scale and many consumers prefer the convenience and one stop nature of supermarket shopping • SFSCs may not by definition guarantee that consumers receive high quality food
Opportunities	Threats
<ul style="list-style-type: none"> • Creating an EU labelling scheme for SFSCs could increase consumer recognition.¹¹ 	<ul style="list-style-type: none"> • Seasonality limits regular sales and all-year-round demand. • Consumers' price sensitivity and low willingness to pay

Policy recommendations

Overall, the findings of this study offer specific policy and practical recommendations for all the players involved in the FQs, SFSCs and PSFC, i.e., farmers, stakeholders and EU policymakers. Within a food policy framework where sustainability must be introduced throughout the food production chain, supply chain dynamics should be reshaped to achieve continuous improvement for producers, processors, retailers and consumers.

FQS overall provide superior benefits, in terms of their economic, environmental and social impacts on rural territories, as they create value for farmers, consumers and the whole

¹¹ The analysis does not include responses from the Serbian experts, as Serbia is an EU candidate country.

production system. *For farmers*, the findings of the current work indicate that the FQS fulfil their purpose to a certain extent, as they offer **better profits to farmers due to the value added, enhanced bargaining power to the markets and increased employment for workers** in farming and food processing. However, FQS remain a niche activity and increasing their sales is necessary to benefit a wider group of farmers.

For EU policymakers, FQSs can be further supported, as EU and national policies could serve as a **tool to enhance intra-EU trade of products and boosting their sales to international markets**. Nevertheless, the **generation of public goods through the FQS requires coherence and coordination of EU policies**.

However, *consumers'* **confusion and little knowledge on what the label** actual stands for may impede efforts to expand sales of FQS labelled products. This finding points to the need for **policy actions to raise consumer awareness and knowledge about these products**. An integrated policy strategy should be developed that will embrace cohesive plans by Member States to reshape the food environment, linking incentives for healthy and sustainable food production with the creation of new markets for these products. **Specific communication campaigns promoting FQS** are merited. In this way, a smart food labeling system may comprise a measure of a common food policy scheme, reducing the complexity of different national systems for producers in the single market and improving the information available to consumers. By establishing closer links between producers and consumers, FQS and bottom-up initiatives could make a decisive contribution to encouraging healthier and more sustainable food consumption.

Similarly, the results of this work recommend actions and policy interventions to ameliorate the effectiveness of the PSFP in primary schools. Such targeted actions in school meals could improve the nutritional benefits pupils receive from school meals mainly through the **collaboration and setting up of multi-stakeholder forums on menu development**, and also certain guidelines on the procurement of soft drinks to accompany primary school meals. Societal benefits are also prominent, as streamlined PSFP could **reduce the impact on the environment through the greater use of environmental and socio-economic criteria in procurement contract awards**, and **specific actions to reduce plate waste in canteens**. Yet, boosting the efficacy of the PSFP in primary schools require certain policies that either **boost expenditure on school meals and staff recruitment** or **organize field visits for food suppliers in schools** to have an integrated picture of the procedures and food provided.

Finally, for SFSCs, the key policy contribution of this work points to **the additional employment generated and promotion of gender balance due to greater employment of**

women in the logistics activities **and consumers' better awareness of the products they buy**. As mentioned earlier for FQS, consumers' recognition of these products should be a part of consumer decision making processes. Experts believe **creating an EU labeling scheme for SFSCs will prompt their recognition**. The goal would be to promote the transition from food consumption (characterized by waste) to responsible eating behavior characterized by care, awareness and responsibility. A prerequisite for this transition to sustainable nutrition from SFSCs is that interested consumers become responsible citizens.

In a general sense, the evolution and reform of SFSCs is imperative, so as to become more cost-effective, resilient and more flexible in unfamiliar situations such as the unexpected crisis the world is trying to manage. A key challenge is the insufficiently adapted regulatory framework and standards for production, processing and sales. In fact, the EU regulation includes the possibility of flexibility for small production volumes, but local authorities do not always know or do not want to implement it. The collective organization of small farmers is very important in this regard.

The current work does not offer clear evidence about the interlinkages between to significant deviations on how stakeholders from different countries perceive the functionality and effectiveness of these initiatives. Still, the bottom-line is that all of them have a positive impact on the development of rural territories and require a holistic and coherent policy approach for their effectual consolidation and implementation. **Policy measures must be coordinated on both the supply and demand sides**, meaning that the availability and affordability of food through the FQS, the PSFP and the SFSCs must also be **harmonized with increased access, awareness and empowerment of consumers to choose healthy and tasty food**. The development of a legislative/policy context to remove regulatory barriers and provide incentives and behavioral changes to improve information, education and consumer and farmer awareness is required. The main goal is to raise awareness and support the value of food at all levels.

Towards this direction, EU policymakers should focus on a holistic approach that will emphasize: *(i)* the economic, environmental and socio-cultural sustainability of FQS, PSFC and SFSCs; *(ii)* the integration between sectors, policy areas and levels of government; *(iii)* the participatory decision-making processes for all the stakeholders involved in these initiatives; and *(iv)* a combination of mandatory measures and incentives to accelerate the transition to sustainable food systems and improve their effectiveness.

Finally, a summary of policy and practical recommendations stemming from the evaluation of FQS labelling, PSFP models and SFSC are presented in the Table 23 and Table 24, respectively.

Table 24. Policy recommendations stemming from the evaluation of FQS labeling, PSFP models and SFSC.

Recommendations for policymakers	Promoting involvement and sales of FQS, as they enhance the bargaining power of the farmers and food processors within food supply chains
	Promoting involvement and sales of FQS, as they generate higher profit per employee at the farm and processing levels
	Promoting involvement and sales of FQS, as they generate better employment opportunities for workers in farming and food processing
	Development and implementation of EU and national policies to enhance intra-EU trade of products, as well as boosting their sales to international markets
	Adoption of coherent and coordinated actions to generate public goods through the FQS
	Policies and mechanisms should be developed to raise consumer awareness and knowledge about FQS
	Taking action to encourage the use of Geographical Indication (GI) products as ingredients in “new” products, under a protection regulation
	Development and adoption of certain guidelines on the procurement of soft drinks accompany primary school meals
	Incorporation of environmental and socio-economic criteria in procurement contract awards
	Policies and mechanisms should be developed to minimize plate waste in canteens
	Provision to authorities of additional financial resources to spend on improvement of primary school meals
	Strategies to boost expenditure on staff recruitment (e.g. catering staff, canteen supervisors)
	Using SFSC as a mechanism for improving gender balance, given the greater employment of women in the logistics and retail activities
	Creation and promotion of an EU labelling scheme for SFSCs
	Policy measures must be coordinated and harmonized with increased access, awareness and empowerment of consumers to choose healthy and tasty food

Table 25. Practical recommendations stemming from the evaluation of FQS labelling, PSFP models and SFSC.

Practical recommendations for producers and processors	Create specific communication campaigns to promote FQS
	Adoption of a smart food labeling system reducing the complexity of different national systems and improving the information available to consumers
	Evolution and reform of SFSCs to become more cost-effective, resilient and more flexible in unfamiliar situations
Practical recommendations for PSFP stakeholders (teachers, nutritionists, catering staff)	Organizing of multi-stakeholder forums (e.g. suppliers, catering staff, pupils, headteachers, etc.) on school menu development
	Organizing food supplier field trips in schools, as part of the food and health curriculum
	Revision of job rules of catering staff and integration them into other available school-based activities to improve the connectedness of such staff into wider school life

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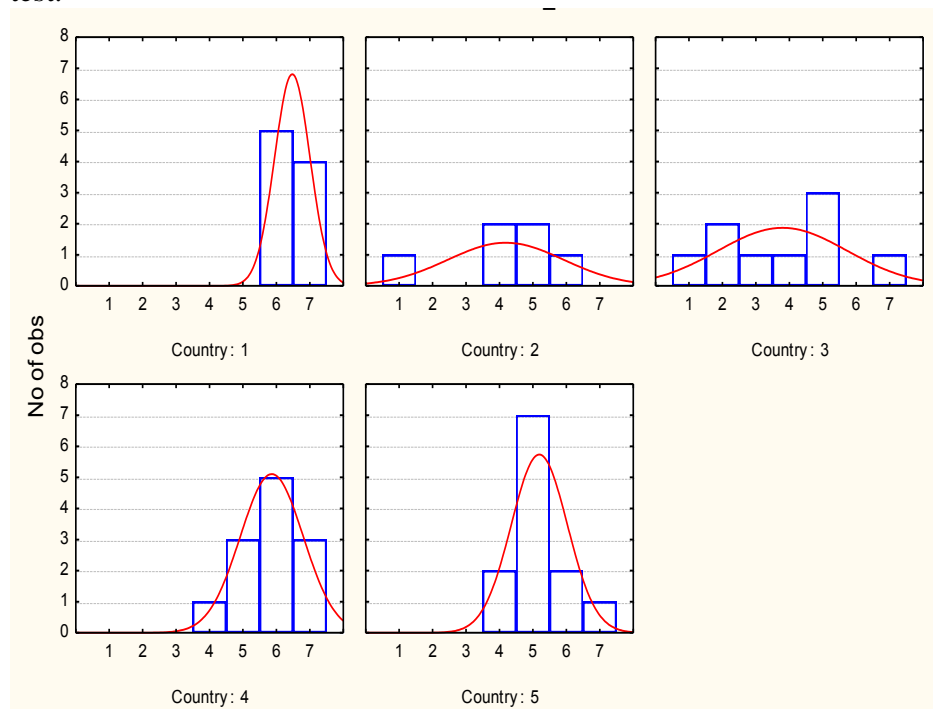
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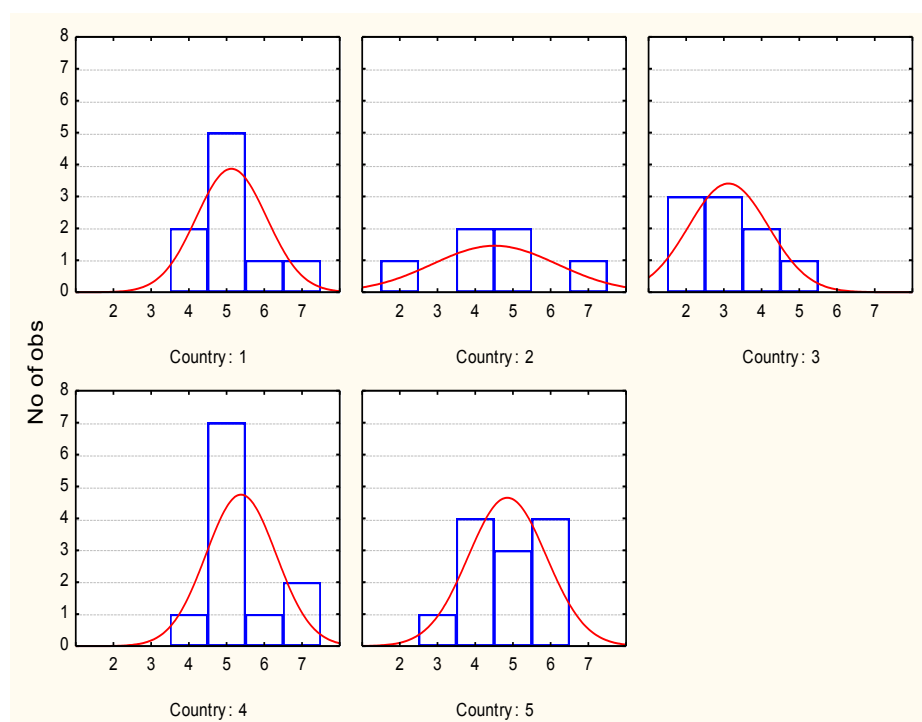
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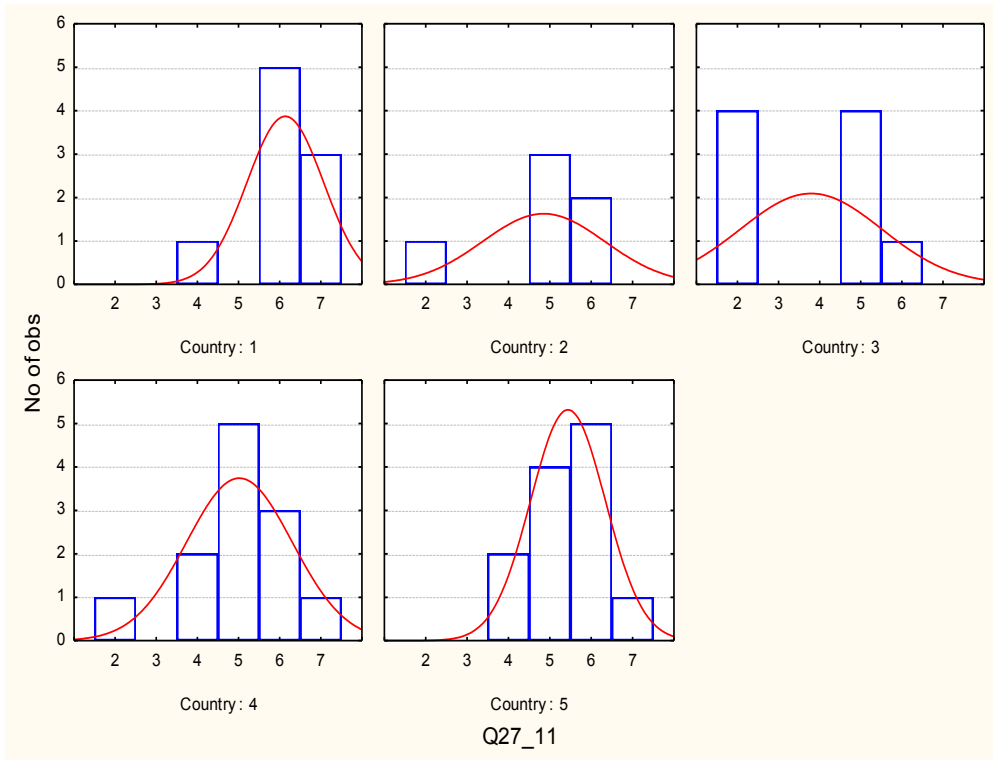
APPENDIX I: Categorised histogram with values for all countries by the Mann-Whitney U test.



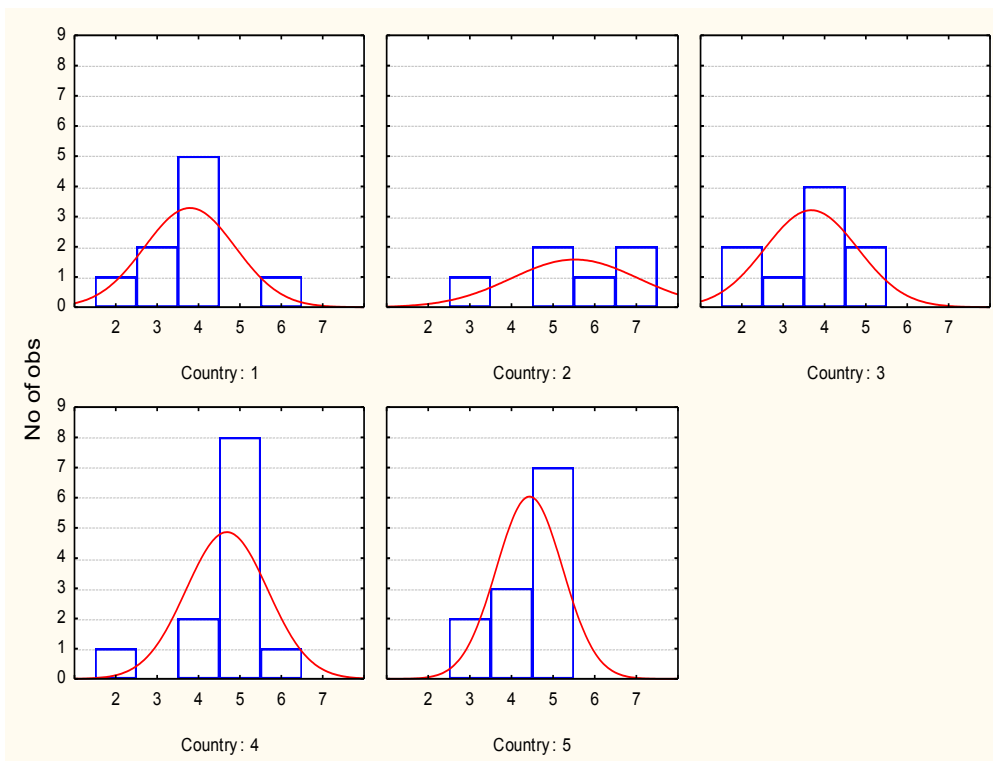
Categorised histogram with values from the Likert scale for statement Q.2.



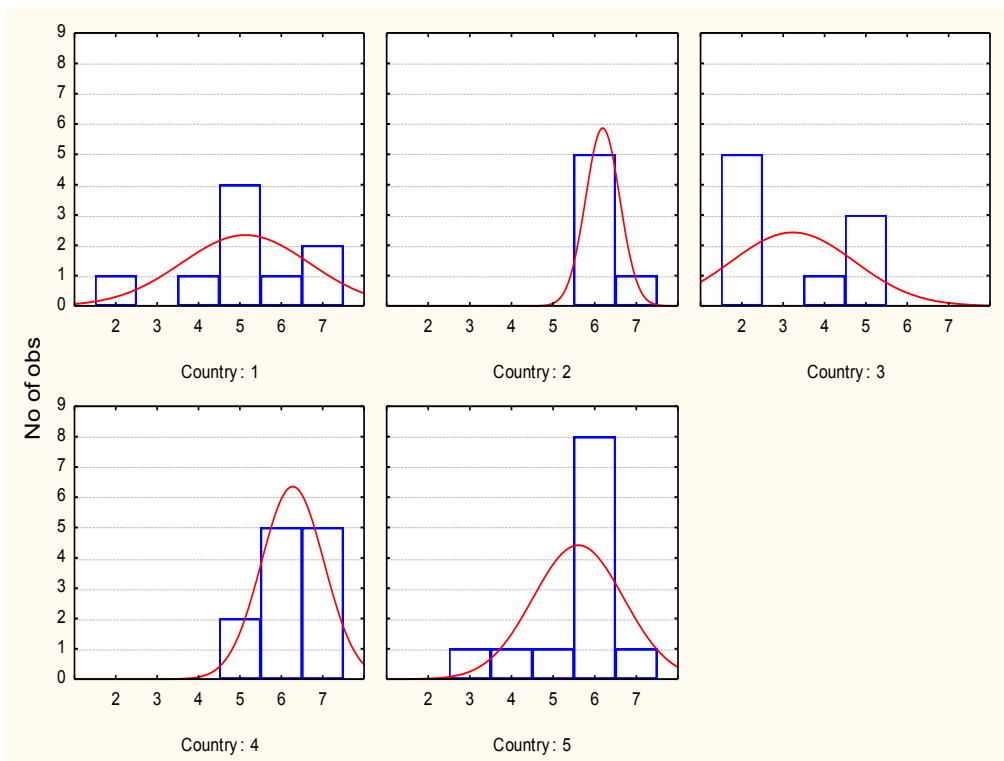
Categorised histogram with values from the Likert scale for statement Q.3.



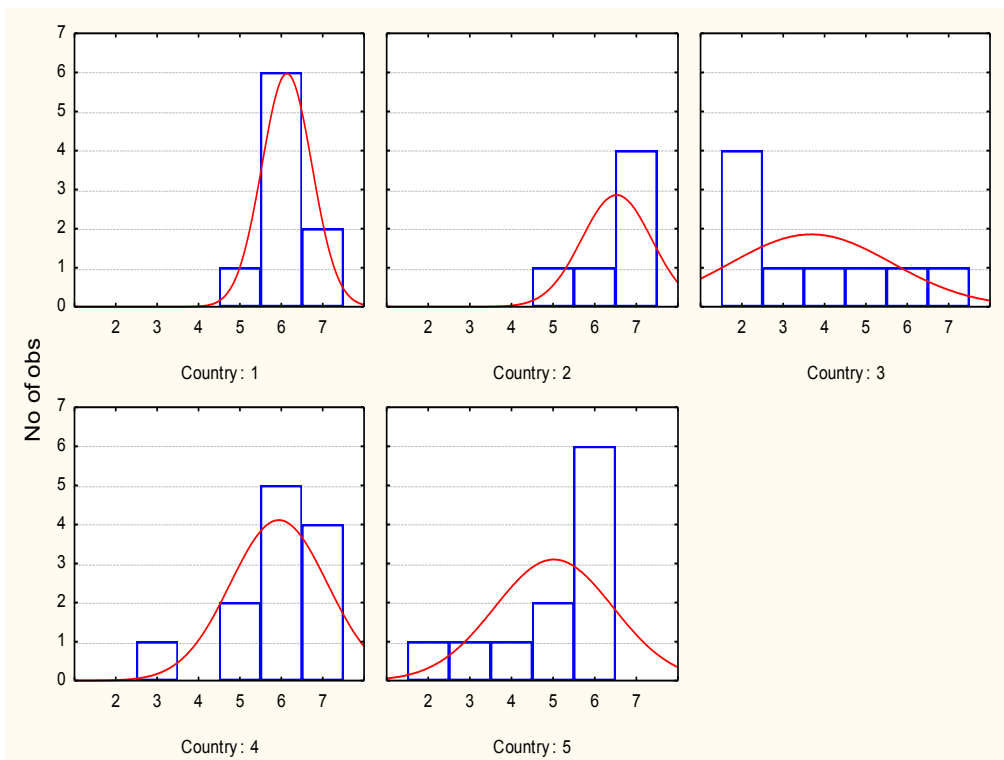
Categorised histogram with values from the Likert scale for statement Q.5.



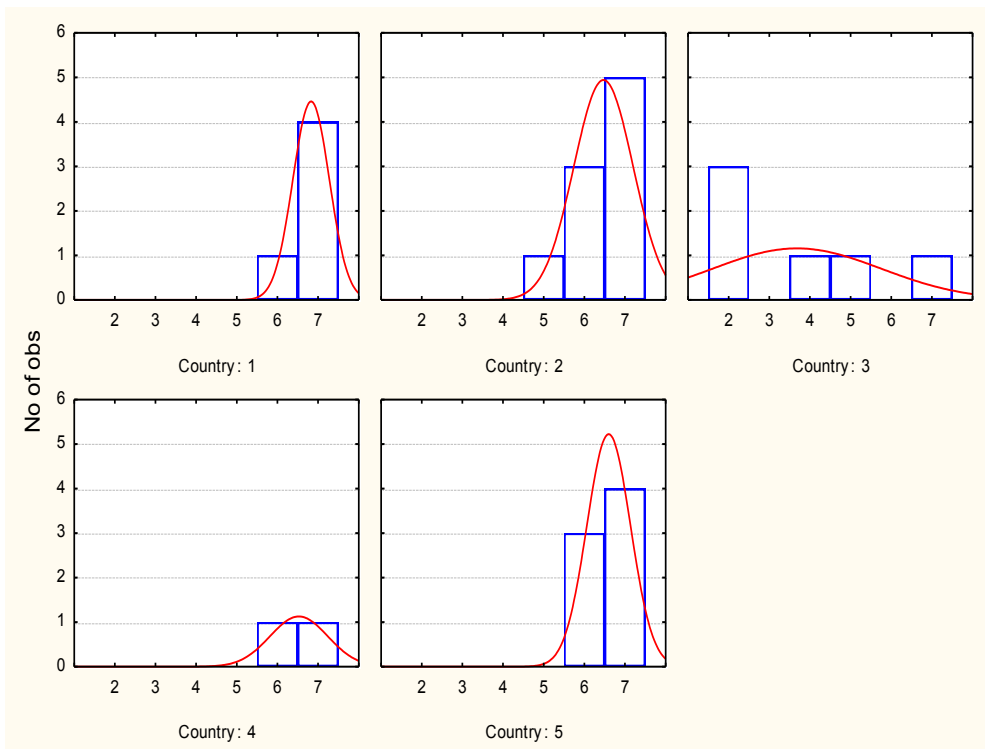
Categorised histogram with values from the Likert scale for statement Q.6.



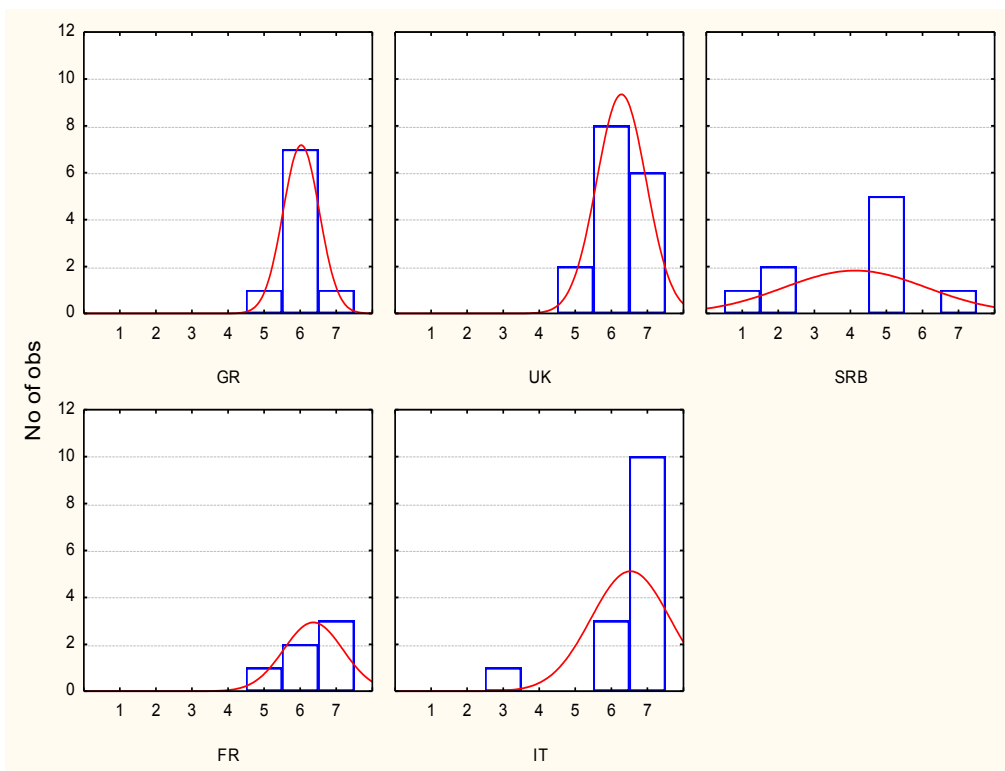
Categorised histogram with values from the Likert scale for statement Q.7.



Categorised histogram with values from the Likert scale for statement Q.8.



Categorised histogram with values from the Likert scale for statement Q.11.



Categorised histogram with values from the Likert scale for statement Q.15.

APPENDIX II: First round questionnaire



Strengthening European Food Chain Sustainability by Quality and Procurement Policy

Delphi Survey: Supporting the formulation of Policy Recommendations

Dear Expert,

Strength2Food is a European research project funded under the H2020 Programme, designed to improve the effectiveness of Food Quality Schemes (FQS), Public Sector Food Procurement (PSFP) and to stimulate Short Food Supply Chains (SFSC). One of the main objectives of this project is to identify policy and practical recommendations to support agri-food supply chain practitioners and policy makers to strengthen FQS, PSFP and SFSC at national, EU and international levels.

As part of this project the consortium is conducting a Policy Delphi exercise with experts (e.g., producers, processors, retailers, policy makers and academics). **As a relevant expert, we ask for your help in completing the following questionnaire.** The questionnaire comprises **four major categories, i.e. Strengths, Weaknesses, Opportunities, and Threats.**

You are invited to participate in this research study by contributing to the relative categories that fall within your field of expertise. **You only need to answer questions related to your specific area of expertise.** All expert responses will remain anonymous and data collection proceeds in two rounds. In this first round, you are invited to indicate your level of agreement with specific statements. In the second round, you will receive feedback on other experts' responses. The questionnaire should take around 15 minutes to complete.

Your contribution is very important and we thank you in advance for your time and cooperation. If you have any questions please do not hesitate to contact us through your country's representative. More information and details about the project can be found on the Strength2Food website at: www.strength2food.eu



My area of expertise relates to (please tick those which apply):

- Food Quality Schemes (FQS) such as Geographical Indications like PDO and PGI, TSG and certified organic
- Public Sector Food Procurement (PSFP)
- Short Food Supply Chains (SFSCs)

First, we would appreciate your opinions regarding the STRENGTHS of, in your local area, Food Quality Schemes (FQS) such as geographical indications like PDO/PGI, and certified organic. Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements							
1.	FQs allow agri-food producers to compete on the market in terms of quality, rather than quantity and/or minimum cost of production.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Products with a FQS generate higher operating margins for farmers and food processors than respective products without a FQS.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Products with a FQS are better economically for the communities in which they are produced.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	FQs contribute more to the protection of rural landscapes, sustainable management and reproduction of natural resources than respective products without a FQS.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	The profit generated per employee at the farm and processing levels for FQS products is higher than that generated at the same levels of the agri-food chain of respective products without a FQS.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)

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6.	<p>Products with a FQS improve the bargaining power of farmers and food processors within food supply chains.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
7.	<p>Products with a FQS generate better employment opportunities for workers in farming and food processing.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
8.	<p>Products with a FQS require more specialized skills, than products without a FQS, improving local job market opportunities and the social sustainability of the territories in which products are produced.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
9.	<p>Products with a FQS generate higher prices on international markets and are exported in larger volumes than respective products without a FQS.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
<p>If you have any comments on the STRENGTHS of food quality schemes in your local area, please write in the box below.</p>	

Secondly, we would appreciate your opinions regarding the **WEAKNESSES** of Food Quality Schemes (FQS) such as PDO/PGI/Organic. Particularly, for your local area, please rate the degree to which you agree or disagree that FQS have the following weaknesses:

Statements	
1.	<p>Products with a FQS have limited opportunities for market expansion and increasing production.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
2.	<p>The presence of FQS certification does not guarantee, per se, that the product(ion) is economically sustainable.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
3.	<p>Products with a FQS are produced in smaller quantities than respective products without a FQS, limiting income generation.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
4.	<p>Products with a FQS are characterized by higher production costs along the supply chain.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
5.	<p>Transporting products with a FQS produces more carbon emissions per tonne of product, compared to products without a FQS, due to the limited quantities sold and transported per trip.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
6.	<p>Consumers have difficulties in recognizing and understanding the different labels for FQSs on the packaging of products.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
<p>If you have any comments on the WEAKNESSES of food quality schemes in your local area, please write in the box below.</p>	

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In the next section, we would appreciate your opinions regarding the OPPORTUNITIES or strategies for strengthening, in your local area, Food Quality Schemes (FQS) such as PDO/PGI/Organic. Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements							
1.	Promoting products with a FQS could help develop tourism in the associated area of production.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Supporting products with a FQS label on the EU market could enhance intra-EU trade of agricultural products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	EU and national policies on FQSs could enhance sales on international markets.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	The potential of FQS schemes to generate public goods is still underutilized and stronger coherence and coordination with other EU policies (i. e., the Common Agricultural Policy, promotion policy, trade policy, research and innovation) would help to fully realize it.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Better communication and marketing of organic products could increase consumer demand.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Supporting and promoting the use of FQSs labels would help establish more sustainable food systems.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Increasing demand for FQS products would help achieve or strengthen sustainable local development.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Simplifying the registration of Protected Designation of Origin and Protected Geographical Indication (PDO/PGI) products could positively contribute to the development of less favoured and remote regions.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Using Geographical Indication (GI) products as ingredients in “new” products could represent an opportunity for the expansion of products with a GI if a proper protection regulation is put in place.						

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	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
10	Local authorities could promote the planning of festivals/fairs linked to FQS products to achieve additional engagement with the local community and to promote further FQSs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
11	Providing producers with better market intelligence to understand consumer demand could incentivize firms to supply food products with FQS labels.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
12	The promotion of educational programmes on the food system would increase consumers' attentiveness to products promoted by FQSs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
13	Implementation of communication strategies focusing on raising consumers' awareness and knowledge of the economic, social and environmental sustainability of FQS labels could help increase the credibility of, confidence and trust in FQSs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
14	Communication campaigns that provide information on the control system behind FQS labels could help increase consumer confidence and trust in and credibility of FQSs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
15	Strengthening FQS collective governance with adequate measure supporting FQS producer groups would help improve the effectiveness of the FQSs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
16	Public procurement policies could play an important role in stimulating the demand for FQS products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on the OPPORTUNITIES for food quality schemes in your local area, please write in the box below.						

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Finally, in this section, we would appreciate your opinions regarding the **THREATS** or barriers to strengthening, Food Quality Schemes (FQS) such as PDO/PGI/Organic. For your local area, please rate the degree to which you agree or disagree with the following statements:

Statements	
1.	<p>The intrinsic attributes of products, like smell and taste, are more important to the consumer than the presence of a FQS label on the product itself.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
2.	<p>Consumers rate some of the ethical attributes of food products, such as animal welfare, environmentally friendly production, or fair trade, as being more important than labels of geographical origin.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
3.	<p>Consumers are confused by food quality labels and often possess little knowledge about their meaning.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
4.	<p>Price is the most important attribute for consumers, limiting demand for FQS products.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
5.	<p>Brands more important to consumers than FQS labels.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
6.	<p>Consumers limited knowledge and understanding of the EU Geographical Indication labels prevents consumers from considering them in their food purchases.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
7.	<p>Consumers do not understand the differences between FQS labels (e.g. PDO, PGI and TSG).</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
8.	<p>Using Geographical Indication (GI) products as ingredients in “new” products could represent a threat to the expansion of products with a GI especially if a proper protection regulation is not put in place.</p> <p>Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)</p>
<p>If you have any comments on the THREATS for food quality schemes in your local area, please write in the box below.</p>	

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First, we would appreciate your opinions regarding the **STRENGTHS** of public sector food procurement in primary schools. Particularly, for your country or region, please rate the degree to which you agree or disagree that public sector food procurement in primary schools has the following:

Statements							
1.	There is a statutory nutritional standards framework.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Qualified nutritionists are involved in lunch menu design and recipe testing.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Pupils and parents are involved in lunch menu design and recipe testing.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	Procurement contracts encourage local sourcing of foods.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	School menus meet national nutritional recommendations.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Procurement contracts stipulate a minimum amount or encourage use of organic foods.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Procurement contracts specify a minimum amount of food must be traditional, PDO or local specialities.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
If you have any comments on the STRENGTHS of public sector food procurement in your country and region, please write in the box below.							

Secondly, we would appreciate your opinions regarding the **WEAKNESSES** of public sector food procurement in primary schools. Particularly, for your country or region, please rate the degree to which you agree or disagree that public sector food procurement in primary schools has the following weaknesses:

Statements							
1.	In some cases, school menus provide insufficient fibre.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	In some cases, school menus are too high in fat or saturated fat.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	In some cases, school menus are deficient in key micronutrients.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	The actual nutritional value that children intake from lunches often fell below the national recommendations.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Too much food is wasted.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Too much food waste goes to landfill rather than anaerobic digester or composter.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	There is a lack of rules on the procurement of soft drinks to accompany primary school meals (other than milk and water).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Schools lack adequate on-site food storage facilities (e.g. chillers, freezers).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Schools lack adequate on-site cooking facilities.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on the Weaknesses of public sector food procurement in your country and region, please write in the box below.						

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In the next section, we are interested in **OPPORTUNITIES** for improving public sector food procurement in your country or region. Specifically, to what extent do you believe that the following actions would improve public sector food procurement in your country or region:

Statements

Statements							
1.	Policies that encourage the breaking down of procurement contracts into smaller lots.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Policies that encourage greater use of, and weight is given to, environmental and socio-economic criteria in procurement contract awards.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Creation of local/regional distribution hubs for supplier logistics.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	Implementation of stricter/more detailed nutritional standards monitoring regime.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Setting up in-schools multi-stakeholder forums to discuss meals (e.g. suppliers, catering staff, pupils, head teachers etc.), to work collaboratively on menu development.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Better monitoring of, and actions to reduce, plate waste in canteens.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Arranging food supplier field trips/in-class events, as part of food and health curriculum.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Development of a national recipe database (i.e. with 'tried and tested', nutritionally approved recipes).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Revising job roles and career progression of catering staff.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on these opportunities for improving public sector food procurement or wish to make other points about strategies to improve public sector food procurement, please write in the box below. Please note in the box below any comments on variations in opportunities to improve public sector food procurement within your country or region.						

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Finally, in this section, we are interested in **THREATS** or **BARRIERS** for improving public sector food procurement in your country or region. Specifically, to what extent do you believe that the following are threats to improving public sector food procurement in your country or region:

Statements							
1.	Budget pressures affecting spend on food.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Unhealthy food culture and habits amongst pupils.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Problems with school canteen environment (e.g. insufficient space, too noisy).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	Problems with school meals scheduling (e.g. lunchtimes too short).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Lack of food education/healthy eating in the curriculum.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Lack of joined-up thinking between stakeholders (e.g. procurement, catering, education).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Limitations in regional/local infrastructure (e.g. few local/organic suppliers, no alternatives to landfill for food waste).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Difficulties in encouraging small, local suppliers to bid for contracts (e.g. lack of scale/consistency of supply).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Budget pressures affecting spend on staff (e.g. catering staff, canteen supervisors).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on threats and barriers to improving public sector food procurement, please write in the box below. Please also note any comments you may have on variations in the threats and barriers to improving public sector food procurement within your country or region.						

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First, we would appreciate your opinions regarding the **STRENGTHS** of Short Food Supply Chains (SFSCs), in your local area, compared to a typical supermarket. Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements							
1.	Consumers' greater knowledge of food products and place of provenance.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Consumers' direct or close contact with primary producers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Better access to local food.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	Better access to organic food products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Better access to fresh and seasonal food products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Better access to healthy and nutritious food products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	euhkats00@gmail.com						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Better information about food products and related production methods.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Higher levels of transparency and consumer trust within the food supply chain.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
10.	Greater contribution to support the local economy (producers, food processors, vendors).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
11.	Greater contribution to support small-scale farmers and producers (e.g. higher market returns).						

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	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
12.	Ensure a fairer position for farmers/producers in the food supply chain and tackle unfair trading practices (e.g. higher profit margins, bargaining power, autonomy in price setting, etc.).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
13.	Greater contribution to community building (trust, confidence, cooperation).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
14.	Greater contribution in terms of gender balance (e.g. greater employment of women in the logistics and retail activities).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
15.	Greater contribution to support traditional and authentic methods of food production.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
16.	Higher production standards to ensure food safety (e.g. animal welfare).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
17.	More environmental-friendly distribution of food (e.g. food miles, usage of packaging).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
18.	Greater contribution to sustainable resource management (less intensive production techniques, organic production, protecting biodiversity, etc.)						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
19.	Better access to tastier food.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
20.	Lead to less food waste within food supply chains						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on the STRENGTHS of short food supply chains, please write in the box below.						

Secondly, we would appreciate your opinions regarding the **WEAKNESSES** of Short Food Supply Chains (SFSCs). Particularly, for your local area, please rate the degree to which you agree or disagree that FQS have the following weaknesses

Statements							
1.	Only attract a local segment of local consumers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	It is very time consuming for producers to sell via SFSCs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Offer a smaller selection and range of food products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	Limited reliance on smart technology features (i.e., smartphones, social media engagement, online shopping etc.).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Have shorter and infrequent opening days, which makes them inconvenient for consumers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	Producers' lack of knowledge in marketing (i.e., advertising, digital marketing).						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Higher transport distance, and costs, to access designated point of sales.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
8.	Products are too expensive for most local consumers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
9.	Small scale operations, with limited ability to expand sales.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
10.	Involve higher costs of production.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on the WEAKNESSES of short food supply chains, please write in the box below.						

In the next section, we would appreciate your opinions regarding the **OPPORTUNITIES** or strategies for strengthening Short Food Supply Chains (SFSCs). Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements	
1.	<p>Creating an EU labelling scheme for SFSCs could increase consumer recognition.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
2.	<p>Creating an EU labelling scheme for SFSCS could provide producers with a greater value-added.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
3.	<p>Supporting the marketing of SFSCs to attract new customers.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
4.	<p>Improving role and use of information technology to support their operations, resilience and convenience (e.g. online sales, distribution, retail).</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
5.	<p>The creation of a network to transfer knowledge between SFSCs to learn best practice.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
6.	<p>Investments in training programmes for producers, involved in SFSCs, to improve their marketing and communication skills.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
7.	<p>Allocate public spaces to farmers markets in all major towns/cities.</p> <p style="text-align: center;"> Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7) </p>
<p>If you have any comments on OPPORTUNITIES and strategies for strengthening short food supply chains, please write in the box below.</p>	

This section presents some of the key threats that may hinder Short Food Supply Chains (SFSCs) in your local area. Please indicate your level of agreement with the following statements. Key **Threats** / **Barriers** facing strategies to strengthen Short Food Supply Chains in my local area are:

Statements							
1.	Strong competition from conventional retail chains on price, convenience and availability of food products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
2.	Seasonality limits regular sales and all-year-round demand.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
3.	Consumers' price sensitivity and low willingness to pay.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
4.	SFSCs viewed as "exclusive" in terms of their image and prices of products.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
5.	Primary producers have difficulties in connecting with retailers and consumers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
6.	SFSCs lack widespread recognition by consumers.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
7.	Farmers do not like co-operating with each other on marketing and promotion of SFSCs.						
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
	If you have any comments on THREATS that may hinder Short Food Supply Chains, please write in the box below.						

Personal information

We would like to send you the findings of this study and gain your views on what we find. To do this we need your name and email address. Please note that these will not be shared with anyone else and all your responses will remain strictly confidential.

Name _____

Email address _____

Country _____

What is your occupation? _____

Thank you for your time and contribution to this Delphi study.

APPENDIX III: Second round questionnaire



Strengthening European Food Chain Sustainability by Quality and Procurement Policy

Delphi Survey: Supporting the formulation of Policy Recommendations

Dear Expert,

A while ago you were invited to participate in a Policy Delphi exercise, conducted in the context of the project Strength2Food, and you completed the first-round questionnaire. Firstly, we would like to thank you very much for your contribution.

We would like to **invite you to complete this second and last round of the survey**, where you will be asked to rank similarly on a seven-point Likert scale the statements that emerged from the first round. The questionnaire contains those statements which have not met participants' consensus in the first round along with their rating, i.e. IQR (IQR represents the distance between the 25th and the 75th percentile value of ratings. - A smaller IQR indicates more consensus), as calculated from the previous round. In addition, the level of consensus is listed for each statement.

Statements that obtained a **Very Strong consensus** (i.e., $IQR \leq 1$) have been excluded from the second round. The second-round questionnaire contains statements with **Strong consensus** (i.e., $1 < IQR \leq 2$), **Moderate consensus** ($2 < IQR < 3$) and **Low consensus** ($IQR \geq 3$). Therefore, we would like to ask you to **consider again each statement and rank accordingly**.

The time required to complete the questionnaire is far shorter than those of first-round questionnaire. If you have any questions, please do not hesitate to contact us through your country's representative. More information and details about the project can be found on the project website at <http://www.strength2food.eu>.

We thank you in advance for your time and cooperation.



My area of expertise relates to (please tick those which apply):

Food Quality Schemes (FQS) such as Geographical Indications like PDO and PGI, TSG and certified organic

Public Sector Food Procurement (PSFP)

Short Food Supply Chains (SFSCs)

First, we would appreciate your opinions regarding the **OPPORTUNITIES** or strategies for strengthening Food Quality Schemes (FQS) such as PDO/PGI/Organic. Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements		First round rating (IQR)	Obtained level of consensus in the previous round
1.	Promoting products with a FQS could help develop tourism in the associated area of production.	1.25	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
2.	EU and national policies on FQSs could enhance sales on international markets.	1.25	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
3.	The potential of FQS schemes to generate public goods is still underutilized and stronger coherence and coordination with other EU policies (i. e., the Common Agricultural Policy, promotion policy, trade policy, research and innovation) would help to fully realize it.	2.00	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
4.	Better communication and marketing of organic products could increase consumer demand.	1.25	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
5.	Supporting and promoting the use of FQSs labels would help establish more sustainable food systems.	2.00	Strong consensus

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	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		S
6.	Increasing demand for FQS products would help achieve or strengthen sustainable local development.							2.00	Strong consensus
7.	Simplifying the registration of Protected Designation of Origin and Protected Geographical Indication (PDO/PGI) products could positively contribute to the development of less favoured and remote regions.							2.00	Strong consensus
8.	Using Geographical Indication (GI) products as ingredients in “new” products could represent an opportunity for the expansion of products with a GI if a proper protection regulation is put in place.							2.00	Strong consensus
9.	Local authorities could promote the planning of festivals/fairs linked to FQS products to achieve additional engagement with the local community and to promote further FQSs.							1.25	Strong consensus
10.	The promotion of educational programmes on the food system would increase consumers’ attentiveness to products promoted by FQSs.							1.25	Strong consensus
11.	Implementation of communication strategies focusing on raising consumers’ awareness and knowledge of the economic, social and environmental sustainability of FQS labels could help increase the credibility of, confidence and trust in FQSs.							2.00	Strong consensus
12.	Communication campaigns that provide information on the control system behind FQS labels could help increase consumer confidence and trust in and credibility of FQSs.							1.25	Strong consensus

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1 3	Strengthening FQS collective governance with adequate measure supporting FQS producer groups would help improve the effectiveness of the FQSS.	1.25	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
1 4	Public procurement policies could play an important role in stimulating the demand for FQS products.	3.00	Low consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		

Secondly, we would appreciate your opinions regarding the **THREATS** or barriers to strengthening, Food Quality Schemes (FQS) such as PDO/PGI/Organic. For your local area, please rate the degree to which you agree or disagree with the following statements:

Statements		First round rating (IQR)	Obtained level of consensus in the previous round
1.	The intrinsic attributes of products, like smell and taste, are more important to the consumer than the presence of a FQS label on the product itself.	2.00	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
2.	Price is the most important attribute for consumers, limiting demand for FQS products.	2.00	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
3.	Brands more important to consumers than FQS labels.	1.25	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
4.	Consumers limited knowledge and understanding of the EU Geographical Indication labels prevents consumers from considering them in their food purchases.	2.00	Strong consensus
	Strongly disagree (1) Disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat agree (5) Agree (6) Strongly agree (7)		
5.	Using Geographical Indication (GI) products as ingredients in “new” products could represent a threat to the expansion of products with a GI especially if a proper protection regulation is not put in place	2.25	Moderate consensus

Strength2Food D10.2 - Development, refinement and verification of policy recommendations

First, in the next section, we are interested in **OPPORTUNITIES** for improving public sector food procurement in your country or region. Specifically, to what extent do you believe that the following actions would improve public sector food procurement in your country or region:

Statements							First round rating (IQR)	Obtained level of consensus in the previous round
1.	Policies that encourage the breaking down of procurement contracts into smaller lots.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
2.	Policies that encourage greater use of, and weight is given to, environmental and socio-economic criteria in procurement contract awards.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
3.	Creation of local/regional distribution hubs for supplier logistics.						3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
4.	Implementation of stricter/more detailed nutritional standards monitoring regime.						3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
5.	Development of a national recipe database (i.e. with 'tried and tested', nutritionally approved recipes).						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	

Strength2Food D10.2 - Development, refinement and verification of policy recommendations

Secondly, in this section, we are interested in **THREATS** or **BARRIERS** for improving public sector food procurement in your country or region. Specifically, to what extent do you believe that the following are threats to improving public sector food procurement in your country or region:

Statements								First round rating (IQR)	Obtained level of consensus in the previous round
1.	Unhealthy food culture and habits amongst pupils.							1.25	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
2.	Problems with school canteen environment (e.g. insufficient space, too noisy).							2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
3.	Problems with school meals scheduling (e.g. lunchtimes too short).							2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
4.	Lack of food education/healthy eating in the curriculum.							3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
5.	Lack of joined-up thinking between stakeholders (e.g. procurement, catering, education).							3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
6.	Limitations in regional/local infrastructure (e.g. few local/organic suppliers, no alternatives to landfill for food waste).							2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
7.	Difficulties in encouraging small, local suppliers to bid for contracts (e.g. lack of scale/consistency of supply).							2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		
8.	Budget pressures affecting spend on staff (e.g. catering staff, canteen supervisors).							2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)		

Strength2Food D10.2 - Development, refinement and verification of policy recommendations

First, we would appreciate your opinions regarding the **OPPORTUNITIES** or strategies for strengthening Short Food Supply Chains (SFSCs). Particularly, for your local area, please rate the degree to which you agree or disagree with the following statements:

Statements							First round rating (IQR)	Obtained level of consensus in the previous round
1.	Creating an EU labelling scheme for SFSCs could increase consumer recognition.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
2.	Creating an EU labelling scheme for SFSCS could provide producers with a greater value-added.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
3.	Supporting the marketing of SFSCs to attract new customers.						1.75	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
4.	Improving role and use of information technology to support their operations, resilience and convenience (e.g. online sales, distribution, retail).						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
5.	The creation of a network to transfer knowledge between SFSCs to learn best practice.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
6.	Investments in training programmes for producers, involved in SFSCs, to improve their marketing and communication skills.						1.75	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
7.	Allocate public spaces to farmers' markets in all major towns/cities.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	

Secondly, we would appreciate your opinions regarding **THREATS** that may hinder Short Food Supply Chains (SFSCs) in your local area, compared to a typical supermarket. Please rate the degree to which you agree or disagree with the following statements:

Statements							First round rating (IQR)	Obtained level of consensus in the previous round
1.	Strong competition from conventional retail chains on price, convenience and availability of food products.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
2.	Seasonality limits regular sales and all-year-round demand.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
3.	Consumers' price sensitivity and low willingness to pay.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
4.	SFSCs viewed as "exclusive" in terms of their image and prices of products.						3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
5.	Primary producers have difficulties in connecting with retailers and consumers.						3.00	Low consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
6.	SFSCs lack widespread recognition by consumers.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	
7.	Farmers do not like co-operating with each other on marketing and promotion of SFSCs.						2.00	Strong consensus
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)	

Personal information

Please add your name and email address. Please note that your details will remain strictly confidential and your responses will be anonymized.

Name _____

Email address _____

How many years of work experience do you have in the field of FQs/PSFP/SFSCs?



The Strength2Food project in a nutshell

Strength2Food is a five-year, €6.9 million project to improve the effectiveness of EU food quality schemes (FQS), public sector food procurement (PSFP) and to stimulate Short Food Supply Chains (SFSC) through research, innovation and demonstration activities. The 30-partner consortium representing 11 EU and four non-EU countries combines academic, communication, SMEs and stakeholder organisations to ensure a multi-actor approach. It will undertake case study-based quantitative research to measure economic, environmental and social impacts of FQS, PSFP and SFSC. The impact of PSFP policies on nutrition in school meals will also be assessed. Primary research will be complemented by econometric analysis of existing datasets to determine impacts of FQS and SFSC participation on farm performance, as well as understand price transmission and trade patterns. Consumer knowledge, confidence in, valuation and use of FQS labels and products will be assessed via survey, ethnographic and virtual supermarket-based research. Lessons from the research will be applied and verified in 6 pilot initiatives which bring together academic and non-academic partners. Impact will be maximised through a knowledge exchange platform, hybrid forums, educational resources and a Massive Open Online Course.

www.strength2food.eu

