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Scotland's Food and Drink Policy Discussion: Sustainability Issues in the Food Supply Chain

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Abstract: The purpose of the paper is two-fold. First, to identify the main sustainability issues that Scottish food supply chain actors are concerned with and any differences that exist between primary producers, processors and distributors and consumers; and second, to explore the implications of respondents' views for the direction of food and drink policy in Scotland. The analysis was based on a dataset assembled from the written responses to the National Food Policy discussion in Scotland, which contains opinions on the different dimensions of sustainability (economic, environmental and social) from a broad range of individuals and organizations representing different segments of the Scottish population. The empirical analyses involved comparing the responses according to two criteria: by food supply chain stakeholder and by geographical region. The results indicated that whilst there were differences among the studied groups, the importance of social and economic sustainability were strongly evident in the foregoing analysis, highlighting issues such as diet and nutrition, the importance of local food, building sustainability on sound economic performance, the market power of supermarkets, and regulation and support in building human and technical capabilities.

Keywords: food sustainability; food supply chain; food policy

1. Introduction

The food and drink supply chain is a key part of the Scottish economy accounting for almost 20% of total Scottish gross value added (GVA) and employs over 360,000 people across Scotland. The population of just over five million people represents a relatively small domestic market and consequently there is a strong export orientation in much of the food and drink sector, with total annual exports being worth over £5 billion. Agricultural production itself is dominated by livestock and meat production, and meat accounts for approximately 21% of consumers' total expenditure on food. Scotland's (poor) diet is widely regarded as contributing to high obesity levels and as a cause of major chronic diseases and shortened life expectancy (a brief description of the Scottish food and drink sector is provided in Appendix 1).

On 7 November 2007 the Scottish Parliament resolved that "Scotland should have a national food policy and would benefit greatly by having a clear, consistent and coherent approach to food covering health, environmental, social, cultural and economic factors and welcomes the Scottish Government's commitment to launch a national debate and consultation on a food policy for Scotland that takes into account the views of the Parliament, industry and wider society" [1]. Behind this resolution lay recognition that the development of enterprise, health, rural affairs and other policy areas in Scotland all have a food dimension and that as such needed to point in the same direction [1].

The national debate was launched in January 2008 with the release of a discussion paper: 'Choosing the Right Ingredients—the Future for Food in Scotland' [2]. This set out Government's vision for food in Scotland and was structured around five strategic objectives: (1) 'Healthier Scotland', which embraced individual behavior and attitudes about diet and food choices; (2) 'Wealthier and fairer Scotland', which considered sustainable economic growth of the food industry; (3) 'Safer and stronger Scotland', which dealt with a food industry and its interaction with local communities; (4) 'Greener Scotland', which presented views on reducing the environmental impact of food and drink production and consumption; and (5) 'Smarter Scotland', which addressed creating a highly-skilled and innovative food industry with better informed consumers.

The discussion document also presented many of the main challenges and issues associated with food in Scotland. As such, there were no predetermined questions for respondents to consider, as in the case of a formal consultation, and the participants were invited to provide opinions about any of the document's topics, or even raise additional ones. A further element of the discussion was a series of 13 stakeholder events held across Scotland for views to be expressed and communicated to Government. In total 605 individuals, with 315 organizations being represented, were involved in these events. In addition, a blog was placed on the Scottish Government website with five video clips which presented a variety of issues by prominent members of the food community and which could be responded to by an on-line response facility. Overall, 80 people commented on the blog.

The opinions collected through the discussion were used to inform the policy development process. Notably, five workstreams (*i.e.*, working groups) were established to consider key areas of the developing policy. In addition a Food and Drink Leadership Forum was set up with 'champions' to cover the fundamentals of health, environment, affordability and the economy. The forum was tasked with making recommendations to the Scottish Government based on the workstreams reports. In June 2009 the new policy was launched with the publication of 'Recipe for Success—Scotland's National

Food and Drink Policy' [3] (note that while the discussion was termed a National Food Policy discussion, the importance of drink production and consumption subsequently led to the policy becoming a Food and Drink Policy).

At the end of the discussion period in late April 2008, a total of 441 individuals and organizations had made written responses to the Government. A sub-product of the analysis of the responses to the discussion document was a unique dataset containing opinions on the different dimensions of food sustainability from a broad range of individuals and organizations representing different segments of the Scottish population.

The assembled database allowed us to explore the breadth of interests of the Scottish population as regards the different dimensions of sustainability of the food system. This is an important issue due to the fact that diverse understandings of sustainability complicate the development of a cohesive and applicable policy agenda, which can be accepted and deployed across the whole food supply chain. Different patterns of emphasis placed on sustainability by individual stakeholders in the supply chain can contribute to distorted interpretations and objections towards specific policy goals and associated measures. As suggested in previous research focusing on agri-food chains and sustainability [4-6], there could be substantial disparities in the sustainability concerns and priorities for individual groups of stakeholders and no overall definition of sustainability might be found for society as a whole. Furthermore, the expectations of multiple stakeholders may necessitate and influence a complex relationship process requiring separate consideration of particular interest groups [7,8].

In addition, it should be noted that the otherwise divergent sustainability agendas of individual stakeholders could intersect, and emerging common interest could be used as both communication and action platforms for co-operation between supply chain members. The intra-chain synergy could then be a part of a larger, localized sustainable production system for a whole sector within a country, specializing in the production of a specific food product that faces serious sustainability related challenges, as in the case of the Scottish salmon industry [9]. Identification of differences and common grounds shared by food supply chain stakeholders is therefore a critical starting point for both industry based sustainability strategies and food policy measures. Hence there is a need for a clear definition and understanding of sustainability, its attributes and benefits and the recognition of any ethical prerogative attached to trade-offs faced by food chain stakeholders.

The aims of this paper are: first, to identify the main sustainability issues that Scottish food supply chain actors are concerned with and any differences that exist between primary producers, processors and distributors and consumers; and second, to explore the implications of respondents' views for the direction of food and drink policy in Scotland.

The structure of the paper is as follows. Following this introduction, the second section discusses the different dimensions of the sustainability concept. The third section deals with the empirical analysis, which comprises a description of the assembled dataset and the methodology used to analyze the data. The fourth section discusses the results, which comprises an analysis by supply chain stakeholder groups and another by region. Policy implications are also considered in this section. Finally, conclusions are presented.

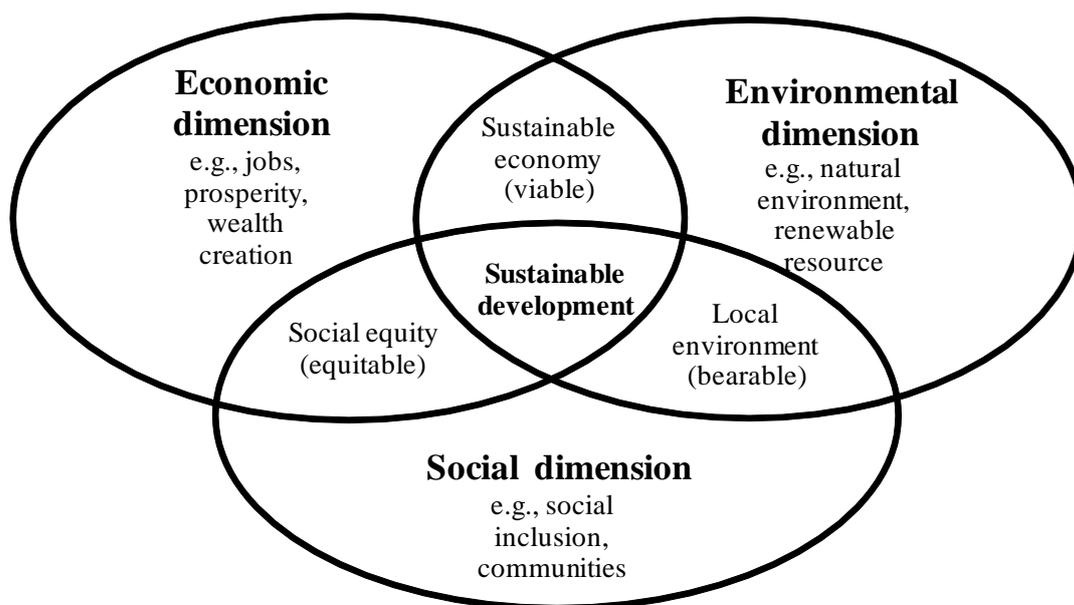
2. The Different Dimensions of Sustainability

The framework used to analyze the responses to the National Food Policy discussion follows the belief that sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [10]. Moreover, it considers that the concept of sustainability is multidimensional [11] as it includes economic, environmental and social dimensions. The framework is presented in Figure 1.

The economic dimension relates to the efficient use of resources, the competitiveness and the viability of the food sector as well as its contributions to society. The environmental dimension ‘refers above all to the management of natural resources with a view to ensuring that they are available in the future. However, it also includes issues such as the protection of landscapes, habitats, biodiversity, as well as the quality of drinking water and air’ [11], and the social dimension relates here to questions of labor opportunities, community development and human welfare.

As shown in Figure 1, there is interdependency between these different dimensions. Thus, strengthening the economic viability of different groups is the basis for providing the means of preserving their social and environmental functions (e.g., rural communities). Social implications, such as the maintenance of a strong, healthy and just society, result from the provision of employment opportunities within for example the food chain (giving rise to an equitable situation without imbalances between, for instance, rural and urban areas, or the different stakeholders within the food chain). Similarly, preserving environmental quality, such as the prudent use of agricultural land, is also a precondition for developing a lasting economic potential in different communities such as in rural areas [11].

Figure 1. Dimensions of sustainability. Based on [12].



It should be noted that although the economic, social and environmental dimensions can to a certain degree develop synergies, this is not always true as they can compete with each other requiring a balance to be achieved between the three dimensions. As mentioned by the EC [11] “Political choices

concerning one out of these three elements must at least ensure that certain minimum standards with respect to the other two are observed”.

3. Empirical Analysis

The empirical methodology used to analyze the data consisted of several steps: first, the dataset was assembled using the responses to the National Food Discussion; second, each response was coded according to its contents; and third, a frequency distribution analysis was carried out in order to rank the responses by stakeholder activity and region.

3.1. Assembling the Dataset

The dataset was assembled based on the written responses to the aforementioned discussion document, with responses totaling 441. Table 1 presents the distribution of the responses by Scottish geographic region and supply chain stakeholder activity.

Table 1. Summary of characteristics of the stakeholders submitting responses.

Variables	Cases	Distribution (%)	Intensity 6/ (%)
Total number of responses	441	100.0	
Geographic region 1/			
North West	64	14.5	310.8
North East	41	9.3	96.6
South East	168	38.1	104.7
South West	126	28.6	61.5
Out of Scotland	22	5.0	
No information provided	20	4.5	
Stakeholder activity			
Consumers	373	84.6	
Producers 2/	30	6.8	
Processors 3/	8	1.8	
Retailers 4/	20	4.5	
Industry bodies 5/	10	2.3	

Notes: 1/ The North West comprises the relatively remote and rural Highlands and Islands. The North East includes the major oil city of Aberdeen and its surrounding rural counties. The South East includes the cities of Dundee and Edinburgh and runs south to the Scottish Borders. The South West includes Glasgow and much of the urban area of central Scotland, as well as the rural South West down to Dumfries and Galloway which borders North West England.

2/ Farmers, fishermen or organizations related to them.

3/ Processors (*i.e.*, butchers) or organizations related to them.

4/ Retailers or organizations related to them.

5/ Organizations that encompass producers, processors and retailers.

6/ Index constructed as the ratio of the responses in a region to its population. The base of the index is 100, which is the case for Scotland as a whole.

In the case of the regional distribution, as shown in Table 1, there was a proportionately high level of responses from the South East (38%) and South West (29%), and a proportionately low response from the North West (14.5%). The North East represented 9% of responses. In addition to the regional distribution of responses, a coefficient representing the intensity of the response ('coefficient of intensity') in each region was constructed. As shown, the intensity of response differed by region, with the North West having the highest index value (311%). Note that the coefficient of intensity was not calculated for the supply chain stakeholder classification due to the lack of information about the population of each group.

Primary producers, food processing businesses and retailers, as well as industry bodies (*i.e.*, organizations producers, processors and retailers), were the food chain respondent categories. Members of the public were expressing their views as individual consumers and citizens and constituted the most numerous group of stakeholders (see Table 1 above). It is worth noting that while only limited numbers of farmers, processors and retailers participated in the discussion, most of the major organizations representing these different stakeholder groups contributed their views. The fact that all major UK multiple retailers participated, together with a large number of Scottish consumers, provided an interesting insight into issues arising in the context of market balance between consumers and their immediate retail suppliers. The presence of supermarkets in the sample is particularly interesting, because they see themselves as always responding to consumer demands, but they also shape consumers' preferences by managing the mix of products, promotional efforts and the product assortment available for purchase. Hence, multiple retailers could be seen as a driving force in food supply chains both in terms of chain operation and participant practices, as well as food type availability, and could therefore be considered as a major target for policy makers if any significant change is to be effected [13,14].

3.2. Methodology

The discussion gave rise to representations from a broad range of individuals and organizations both from within Scotland and from outside, and collectively they raised a wide variety of issues that might be addressed by a national food and drink policy [15].

To cope with this breadth of issues, a significant part of the analysis involved categorizing each response according to a set of 37 topics. It should be noted that these topics were not selected *ex-ante* for the analysis of the documents, but were developed by adding new topics or refining the content of the existing ones as the analysis of responses progressed and new topics emerged. Thus, after the classification of the documents one stakeholder may (as happened frequently) be associated with quite a range of topics (more than 20 in some cases). In order to reduce the level of subjectivity in the identification of broad topics in the responses, the exercise was performed independently by two researchers within the team and their results were compared to obtain a final representation of stakeholders' references to the topics.

The next step of the analysis consisted of ranking the different topics according to the number of stakeholders (which were classified according to different categories, namely geographical location and position in the supply chain, amongst others) that included them in their responses. It should be noted that this analysis did not take into account the intensity of expression associated with a topic in a

stakeholder's response (e.g., the number of times that a topic appears in the response). In addition, each stakeholder was given a weight equal to one, whether it was an individual or an organization.

A definition of the topics is presented in Table A-1 in Appendix 2, which also classifies the topics by the sustainability dimensions.

4. Results and Policy Implications

Table 2 provides a record of the distribution of responses by the main food supply chain stakeholders according to the topic categories which were specified for the analysis. The topics have also been classified into the economic, social and environmental dimensions of sustainability. It should be recognized that this classification is complicated by the fact that some of the topics embrace two or even three of the dimensions of sustainability. Thus, for example, 'local food and local economies' which is defined as 'the impact of the Scottish food industry on regional employment, income and general welfare-including Government financial support for farmers and the food sector' relates both to social and economic issues. It has, however, been classified as part of the social dimension of sustainability for this analysis. Other topics, such as 'diet and nutrition' are more clearly focused on one dimension of sustainability, in this case the social dimension. It is contended that this complication does not diminish the following analysis.

4.1. Primary Producers—Farmers and their Organizations

Amongst primary producers many of the responses were focused on the profile of production and issues facing the individual farms. Overall, the factors influencing farmers' responses could be divided into individual and institutional ones [16]. Institutional factors tended to be more general and formed common denominators for most of the respondents, whereas individual ones pertained more to the specific situations of respondents. Amongst the latter category were the geographical location of farmers (e.g., poor availability of certain services such as abattoirs, distance from the market), profile of production (animal production seems to be faced with a more challenging market environment and also more scrutiny coming from consumers as well as from public and regulatory/legislative bodies) and farmers' characteristics (e.g., age and experience). Institutional/general factors mentioned were a lack of understanding of the farming and food sector by consumers and political decision makers alike, along with gaps in public food education and a media biased portrayal of farmers.

Table 2. Rankings of topic areas by stakeholder typology (blue = economic, green = environmental and red = social).

Primary producers		Processors		Retailers		Industry bodies		Consumers	
Topic areas	Cases								
Diet and nutrition	18	Local food & local economies	7	Diet and nutrition	20	Diet and nutrition	10	Diet and nutrition	245
Farming industry	16	Diet and nutrition	5	Food labelling	16	Local food & local economies	10	Local food & local economies	170
Local food & local economies	16	Labour market—skills, jobs	5	Health promotion	16	Processing capacity in Scotland	8	Health promotion	156
Environmentally friendly food production	13	Adult education	4	Local food & local economies	15	Farming industry	7	Education in schools	149
Health promotion	11	Capacity for food production	3	Food Chain Collaboration	12	Food Chain Collaboration	7	Access to food	143
Education in schools	10	Drinks industry	3	Access to food	11	Labour market—skills, jobs	7	Adult education	131
Food labelling	10	Environmentally friendly food production	3	Environmentally friendly food production	11	Food labelling	6	Farming industry	114
Local food & local communities	10	Food Chain Collaboration	3	Food waste	11	Health promotion	6	Environmentally friendly food production	112
Processing capacity in Scotland	10	Health promotion	3	Adult education	10	R&D	6	Local food & local communities	108
Tourism	10	Product market—exports	3	Labour market—skills, jobs	10	Environmentally friendly food production	5	School & hospital meals	104
Access to food	9	R&D	3	Education in schools	9	Local food & local communities	5	Food labelling	89
External factors affecting food supply	9	Access to food	2	Food packaging	9	Animal welfare	4	Grow your own	88

Table 2. Cont.

Primary producers		Processors		Retailers		Industry bodies		Consumers	
Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases
Product market— public sector	9	Education in schools	2	Local food & local communities	9	Education in schools	4	Food and drink advertising	82
Adult education	8	Food miles (other)	2	Traceability	9	External factors affecting food supply	4	Organic production	75
Food Chain Collaboration	8	Processing capacity in Scotland	2	Food safety	8	Product market— exports	4	Product market— supermarkets	66
Capacity for food production	7	Product market— public sector	2	Local food & food miles	8	Product market— public sector	4	Prices—consumer	64
Local food & food miles	7	External factors affecting food supply	1	Farming industry	7	Access to food	3	Local food & food miles	63
Organic production	7	Farming industry	1	Food and drink advertising	7	Drinks industry	3	Product market— public sector	63
Product market— direct sales	7	Fishing Industry	1	Prices—consumer	7	Food and drink advertising	3	Food waste	54
Product market— supermarkets	7	Food and drink advertising	1	Processing capacity in Scotland	7	Food miles (other)	3	Food packaging	51
R&D	7	Food labelling	1	Product market—public sector	7	Food waste	3	Animal welfare	47
Animal welfare	6	Food safety	1	Animal welfare	6	Product market— supermarkets	3	Food miles (other)	46
Food and drink advertising	6	Food waste	1	External factors affecting food supply	6	Traceability	3	External factors affecting food supply	45
Labour market— skills, jobs	6	Local food & local communities	1	Food miles (other)	6	Adult education	2	Fishing Industry	45
School & hospital meals	6	School & hospital meals	1	Product market— supermarkets	6	Capacity for food production	2	Food safety	45

Table 2. Cont.

Primary producers		Processors		Retailers		Industry bodies		Consumers	
Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases
Drinks industry	5	Traceability	1	Capacity for food production	4	Food safety	2	Product market—direct sales	44
Food miles (other)	5	Animal welfare	0	Prices—producer	4	Local food & food miles	2	Labour market—skills, jobs	43
Food safety	5	Fairtrade	0	R&D	4	Prices—consumer	2	Processing capacity in Scotland	42
Prices—consumer	5	Food packaging	0	Fishing Industry	3	Prices—producer	2	Food Chain Collaboration	38
Traceability	5	Grow your own	0	Organic production	3	Product market—direct sales	2	Tourism	33
Product market—exports	4	Local food & food miles	0	Tourism	3	School & hospital meals	2	Capacity for food production	28
Fishing Industry	3	Organic production	0	Drinks industry	2	Tourism	2	R&D	26
Food waste	3	Prices—consumer	0	Fairtrade	2	Fairtrade	1	Fairtrade	24
Grow your own	3	Prices—producer	0	Product market—direct sales	2	Food packaging	1	Drinks industry	19
Prices—producer	3	Product market—direct sales	0	Product market—exports	2	Grow your own	1	Prices—producer	16
Food packaging	2	Product market—supermarkets	0	School & hospital meals	2	Organic production	1	Traceability	16
Fairtrade	0	Tourism	0	Grow your own	1	Fishing Industry	0	Product market—exports	14

The social dimension was a particularly strong theme in the opinions offered by farm sector respondents. It focused on two aspects: that of diet and nutrition and health, and the related need for greater child and adult education in relation to food and healthy eating, as well as the promotion of healthy eating and diet; and, the importance of, and support for, rural businesses and the role of agriculture in the survival of local, small communities—both in assisting food access and providing/supporting local economic activity. In a majority of cases the remarks on this latter aspect were set in a very negative context—“*farming as we know it is long gone*” (anonymous respondent). Ageing farmers, lack of succession, poor livability of farming communities—were all given as influences which threaten the social sustainability of farming. Overall, livability in farming communities, defined as “*a statement of desires related to the contentment with life in a particular location of an individual or set of individuals*” [17], could be seen as decreasing over time when taking into account the negative remarks present in the farmers’ responses and positive reminiscences about the past.

The economic dimension in the respondents’ comments stressed the importance of continued support for farming (notably financial support) to their survival. An integral part of farming’s survival was the maintenance of a competitive processing sector which could maintain a demand for farming’s products and enhance the distinctiveness of Scottish farm and food products. Also, frequently noted were the significance of food to the support of tourism (and *vice versa*), and the importance of Scottish producers being able to access and supply public sector organizations. Other market issues, especially profit distribution and supermarkets’ power in the supply chain, featured strongly in the responses. Farmers largely appreciated the importance of fulfilling consumer requirements, but felt that they have very little direct influence on the market place.

The environmental aspects of agricultural production were widely appreciated by primary producers with support for environmentally friendly practices much in evidence and expressed in terms of carbon footprints, food miles and climate change, as well as an appreciation of the environmental and social benefits of organic farming. These concerns prevailed over those for the ecological quality of land as impacted by agricultural production. Although issues related to soil, air and land use featured in the respondents’ comments, there was more focus on both the views of the public on farming practices and government regulation (mostly referring to the fear of “more red tape”). It is important however, to note that there is likely to be a significant group of farmers who are pursuing environmental issues due to their personal ethical values, rather than public and government pressure [18].

4.2. Food Processors and Their Organizations

Responses from food processors emphasized distinctive sectoral issues—e.g., meat processors highlighted issues related to hygiene and safety, food scares, public scrutiny and pressure groups. Barley and potato processing companies, on the other hand, mentioned the genetic modification of products (GM) and the access required to technological progress for maintaining competitiveness. Many of the comments and common themes were associated with low margins and long term contractual uncertainty, regardless of the profile of the processing sector concerned.

The economic dimension was of major importance, with the potential for expanding food production in Scotland and the significance of the drinks industry (whisky is Scotland’s major food and

drink export earner) both emphasized. The economic pressures on food processors were also evident as their low margins expose them to any drastic changes in price and supply availability. The lack of institutional “buffers” that could counteract such market and supply-related crises was also mentioned, especially by meat and dairy processing companies. Similar to farmers, respondents in this group also remarked that the spatial (geographical) distribution of food processing establishments does not serve primary supply well, especially in the meat sector. Geographical distance was also mentioned as an obstacle in relation to market access and the food transportation costs faced, especially by smaller food manufacturers.

The social sustainability dimension again reflected a concern for improved diet and nutritional intake amongst Scottish consumers, as well as improved health promotion and food education, but with respondents drawing attention to their own company’s efforts in these areas. The responses of food processors also had a strong social capital orientation. According to the food processors, the quality and availability of skilled labor and middle management is scarce. Also, the level of training and vocational education does not correspond with the needs of the Scottish food industry. Simultaneously, there was a positive reflection on the abilities of Scottish primary producers and tradition in the delivery of quality raw materials, as well as on the revival of traditional Scottish food recipes and technologies. These were seen as strengths that could be used to support and diversify food offerings from Scotland in response to both short term food market fads/fashions, and also as a long term opportunity to build business and food quality reputation.

Environmental concerns were not so strongly articulated as most Scottish food processors have to comply with strict UK and EU legislation and industry regulations on both food safety and environmental protection. All responding processors recognized that a better allocation of resources is required in order to achieve the long term sustainable use of the natural means of production and a reduction of inputs. On the other hand, there were high expectations for both institutional support on “know-how” and also “grant-aid” for those companies that are not able to cope with high capital demands when introducing new environment friendly technologies.

4.3. Retailers and Their Organizations

Responses from retailers were focused on country of origin loyalty; trying to assure policy makers that fair priced and quality food is available on their shelves in Scotland, and that it is meaningfully labeled. They also underlined their commitment to local food sourcing, embracing both Scottish products and those from regional or even locality suppliers. In only two responses were there serious reservations expressed in relation to the profitable supply of local food within multiple networks. The cost of supplying local food in these two cases was mentioned in the context of ever-escalating competition in the UK and opportunities for sourcing cheaply abroad. In multiple retailers’ responses, the negative focus was mostly related to environmental regulations and a technical inability to deal with their strict demands in a short period of time. In all but one response by multiple retailers, there was a clear commitment to procurement and sales of Scottish food in Scotland.

The social aspect of sustainability was visible mainly in mentions of the need for education and conscientious consumer food choice, which is facilitated by informative food labeling. Positive terms were used to underline a need for society’s development in purchasing healthy food and promoting

responsible food and drink consumption. Retailers gave numerous examples of cases where they were supporting both local supply of fresh and healthy food and enhancing favorable consumption trends.

With respect to economic sustainability, alongside an expressed desire to work collaboratively with suppliers (the issue of multiple retailer-supplier relationships is one of considerable public and political concern in the UK [19]), there was recognition of the importance of a high quality supply base in Scotland, both at the farming and processing levels. In the case of the latter, the maintenance of a continued supply of high quality labor was seen as vital with appropriate training opportunities being provided. An association of independent retailers, operating on a much smaller scale, expressed a concern about local food sourcing as being economically unviable in some cases. Overall, retailers had a positive view of market performance and the continuity of supply of Scottish food for Scottish markets and export. They also shared a view that the quality of Scottish food is a guarantor of its sustainability.

Environmental sustainability issues were visible in corporate level, strategic initiative examples, as well as in descriptions of future plans to counteract the negative impact of long distance food procurement and transport. Negative comments were related to a lack of directed co-ordination within the food sector and an uncertain regulatory future. Environmental problem areas such as food waste, climate change and irresponsible consumption of energy were noted, but framed positively in terms of future solutions and expected results. Emphasis was placed on the proactive stance of retailers as the driving force of the food supply chain, providing standards and setting an example to follow. Suppliers' involuntary compliance with these requirements was mentioned as a condition for long term co-operation and achievement of competitive advantage over rival retailers, not only in Scotland but also in the EU and beyond its borders.

4.4. Industry Organization Responses

The responses included 10 from industry organizations which represent a complete sectoral part of the agri-food system (e.g., for a particular product such as meat) or regulate the whole food chain (e.g., on food safety). The responses of these organizations reflected those of the businesses in the agri-food supply chain. Thus their comments emphasized the importance of encouraging and enabling a healthy diet (e.g., through education, food labeling and health promotion) and the contribution of their memberships to these issues, as well as the contribution of their members to the Scottish economy and society as a whole.

4.5. Individual Responses—Consumers

Amongst the plentiful responses by consumers, the social issues of diet and nutrition, health promotion, local food and its contribution to the local economy, and education in schools were by far the most commonly raised issues. Three of these topics—diet and nutrition, health promotion and education—were frequently raised in a negative manner, with criticism of government policy, the education system, business and society in relation to these issues. Shortcomings in the education system with respect to food, its production, preparation and contribution to good health, leading to an inability to make informed choices about food, were particularly strongly voiced. In contrast, a strong positive emphasis was placed on local food through cited benefits to the local economy, food quality

and access. Food affordability, prices of local food and food access were mentioned frequently in the context of impoverished and remote communities. The “*food citizen*” (“*food citizenship*” has been defined as the practice of engaging in food-related behaviors -defined narrowly and broadly- that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system [20], p. 271) responses were largely negative, criticizing the present food market situation and indicating specific needs and actions to be undertaken by both government and food businesses.

Economic sustainability was most commonly raised in relation to the maintenance of Scottish agriculture, the quality of its production and its essential natural resources. A similar, but less widespread concern was evident for the future of the fishing industry. Respondents were also concerned about the physical distribution of food and the adequacy of Scottish production and supplies. Altruistic concerns about the wellbeing of Scottish society were accompanied by fears of supermarket domination of the food market, and a lack of self sufficiency in food production resulting from the high share of imported food in the Scottish market. In the context of the latter point, respondents were strongly in favor of strengthening opportunities for the Scottish food and drink industry to supply public sector establishments.

Social sustainability concerns pertained mostly to the negative impact of diet on the health of both specific social groups and the whole of Scottish society. Responses underlining such issues were characterized by strong emotive expressions. School education, the involvement of retailers in the promotion of healthy food, and the control of advertising, especially for fast food chains, were other common themes. Another significant theme related to the sustainability of farming and rural communities, and Scottish traditional food production and preparation methods. On the other hand, some consumers expressed a lack of trust in relation to individual actors in the supply chains, notably supermarkets and farmers.

Environmental aspects mentioned by individual respondents can be divided into three major categories: climate change and eco-efficiency; animal welfare issues; environmentally friendly production (including organic farming), food safety and GM foods. There was a strong affective charge within statements, and high involvement of the self-selecting respondents, especially mentioning animal rights issues and GM foods. Local food production and distribution was seen as having a positive impact on the environment and biodiversity, and was also raised in the context of food freshness and good quality. There were also specific expectations for the development of sustainable technologies for important Scottish foods, especially salmon farming and game meats.

4.6. Geographical Pattern of Responses

The geographical distribution of responses by topic and region is shown in Table 3 (for a brief description of the Scottish regions see Note 1 of Table 1). It summarizes the views of respondents who live in Scotland and also from those respondents living outside Scotland, or who did not identify their location. First, it should be noted that there was considerable similarity in the pattern of responses across Scotland. Diet and nutrition was the most frequently cited issue across the regions with the exception of the North West where it was second in frequency. Allied to this concern for diet, health and wellbeing were high levels of concern for health promotion and school education of food issues.

Local food and its contribution to local economies was also well to the fore in the responses from all regions, and was the most frequent of all topics mentioned in the North West. Not surprisingly respondents from this very rural region were also concerned for the continuation of farming, as well as the importance of local food producers in supplying their communities with food.

A further observation is that social sustainability topics dominate the issues raised in each of the regions; in all four areas eight of the ten most frequently cited topics were aspects of social sustainability. To some extent this reflects the fact that the majority of respondents were individual citizens/consumers. The top economic topic in all regions concerned the maintenance of farming. Amongst the environmental sustainability topics, the universally most frequently raised topic was that of environmentally friendly food production with organic production placed second in all regions except the North West. The pattern of responses from those respondents from outside Scotland reflected those of Scottish residents.

4.7. Supply Chain Businesses and Citizen Consumers—Views Compared

Examination of the most frequently raised topics by supply chain businesses and their organizations, as compared to those of consumer citizens reveals some interesting points. For consumers there is a very strong presence of social concerns in their responses. Eight out of the top ten topics are all primarily of a social sustainability nature, including the top six. The primary economic concern is for the future of Scottish agriculture itself and the element of food security that a sound domestic farming sector provides, whilst the foremost environmental concern is for environmentally friendly agriculture and food processing. In contrast, whilst supply chain businesses and their organizations have the same top three concerns as consumers (diet and nutrition, local food and local economies and health promotion), they reflect, as might be expected, far more economic sustainability concerns in their responses. Indeed, four of the top ten for these respondents are economic in nature: the maintenance of a farming industry which will ensure agricultural products for the food supply chain; the maintenance of a competitive processing industry with suitable infrastructure; the provision of an adequately skilled workforce; and the collaboration necessary to ensure effective, efficient and sustainable food supply. Finally, whilst the wide-ranging concern for environmentally friendly food production was well to the fore for both businesses and consumers, more specific environmental sustainability issues were further down the list of those raised.

Table 3. Rankings of topic areas by region (blue = economic, green = environmental and red = social).

North West		North East		South East		South West		Other	
Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases
Local food & local economies	40	Diet and nutrition	31	Diet and nutrition	116	Diet and nutrition	87	Diet and nutrition	25
Diet and nutrition	39	Education in schools	23	Local food & local economies	81	Education in schools	59	Local food & local economies	22
Farming industry	26	Health promotion	20	Health promotion	70	Health promotion	59	Health promotion	20
Education in schools	24	Local food & local economies	18	Environmentally friendly food production	67	Local food & local economies	57	Food and drink advertising	18
Health promotion	23	Access to food	15	Access to food	66	Access to food	54	Environmentally friendly food production	15
Local food & local communities	23	Adult education	14	Farming industry	62	Adult education	51	Food labelling	14
Access to food	21	School & hospital meals	11	Adult education	60	Local food & local communities	46	Farming industry	13
Adult education	18	Environmentally friendly food production	10	Education in schools	56	Environmentally friendly food production	38	Access to food	12
School & hospital meals	17	Farming industry	10	Food labelling	51	School & hospital meals	38	Adult education	12
Product market—supermarkets	16	Food labelling	10	Local food & local communities	51	Farming industry	34	Education in schools	12
Food labelling	15	Organic production	9	School & hospital meals	42	Food labelling	32	Labour market—skills, jobs	11
Grow your own	15	Product market—public sector	9	Prices—consumer	41	Grow your own	30	Food Chain Collaboration	9
Processing capacity in Scotland	15	Grow your own	8	Food and drink advertising	38	Organic production	24	Processing capacity in Scotland	9
Product market—public sector	15	Labour market—skills, jobs	8	Grow your own	38	Food and drink advertising	23	External factors affecting food supply	8

Table 3. Cont.

North West		North East		South East		South West		Other	
Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases
Environmentally friendly food production	14	Product market—supermarkets	8	Food Chain Collaboration	34	Local food & food miles	23	Food waste	8
Food and drink advertising	14	External factors affecting food supply	7	Product market—public sector	34	Product market—public sector	23	R&D	8
Local food & food miles	14	Fishing Industry	7	Organic production	33	Food packaging	22	Food packaging	7
Product market—direct sales	14	Local food & food miles	7	Food waste	32	Product market—supermarkets	21	Food safety	7
Organic production	13	Food and drink advertising	6	Product market—supermarkets	31	Animal welfare	19	Local food & food miles	7
Animal welfare	12	Local food & local communities	6	Labour market—skills, jobs	29	Food miles (other)	19	Local food & local communities	7
Fishing Industry	10	Food packaging	5	Local food & food miles	29	External factors affecting food supply	18	Organic production	7
Food waste	10	Food waste	5	Food safety	28	Prices—consumer	18	School & hospital meals	7
Prices—consumer	10	Product market—direct sales	5	Food miles (other)	25	Product market—direct sales	18	Traceability	7
Tourism	10	R&D	5	Processing capacity in Scotland	25	Food waste	17	Animal welfare	6
Capacity for food production	9	Capacity for food production	4	External factors affecting food supply	24	Labour market—skills, jobs	17	Food miles (other)	6
Food Chain Collaboration	9	Food Chain Collaboration	4	Animal welfare	23	Processing capacity in Scotland	16	Product market—supermarkets	6
Food miles (other)	9	Food safety	4	R&D	23	Fishing Industry	14	Capacity for food production	5

Table 3. Cont.

North West		North East		South East		South West		Other	
Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases	Topic areas	Cases
External factors affecting food supply	8	Prices—consumer	4	Tourism	22	Food safety	14	Prices—consumer	5
Food packaging	8	Processing capacity in Scotland	4	Food packaging	21	Food Chain Collaboration	12	Product market—exports	5
Food safety	8	Animal welfare	3	Fishing Industry	17	Capacity for food production	10	Drinks industry	4
Fairtrade	7	Food miles (other)	3	Product market—direct sales	17	Tourism	10	Fishing Industry	4
Labour market—skills, jobs	6	Prices—producer	3	Capacity for food production	16	Drinks industry	7	Product market—public sector	4
Prices—producer	6	Traceability	3	Drinks industry	16	Fairtrade	7	Tourism	4
Traceability	5	Drinks industry	2	Traceability	13	R&D	6	Prices—producer	3
Product market—exports	4	Product market—exports	2	Fairtrade	11	Traceability	6	Grow your own	2
R&D	4	Tourism	2	Product market—exports	11	Prices—producer	5	Fairtrade	1
Drinks industry	3	Fairtrade	1	Prices—producer	8	Product market—exports	5	Product market—direct sales	1

4.8. Policy Implications

The wide variety of actors within the food supply chain, and the many and varied views that they hold in relation to sustainability issues, presents a challenge for policy development with respect to securing a sustainable food system. The divergence of views and priorities on sustainability should be recognized if policy is to succeed. Whilst it may not be crucial to policy success in areas of regulatory enforcement with a strong evidence base, it is likely to be very important where Government seeks to change behavior through engaging with stakeholders and their organizations to encourage and enable behavioral change. Moreover, any policy implications of the current analysis have to be viewed within the overarching purpose of the Scottish Government: “to focus government and public services on creating a more successful country with opportunities for all of Scotland to flourish through increasing sustainable economic growth” (p. vii) [21], as well as its five related strategic objectives: wealthier and fairer; healthier; safer and stronger; smarter; and greener.

Whilst environmental sustainability is frequently foremost in the political sustainability agenda, the importance of social sustainability is strongly evident in the foregoing analysis. For concerned “food citizens” this is understandable, but it also runs through the collective psyche of Scottish food businesses. To some extent this is because concern about the Scottish diet has been on the Scottish political agenda food since at least 1993 when the Scottish Diet Report [22] revealed the extent of Scotland’s poor diet and its adverse impact on health. Since that time there have been a number of initiatives aimed at addressing the problem but with little success. As ‘Choosing the Right Ingredients—The future for Food in Scotland’ [2] notes “*Our poor diet contributes to high obesity levels and is a cause of major chronic diseases, costing the National Health Service hundreds of millions of pounds every year. Poor health means a poor quality of life for individuals, lost productivity for employers and distress for families caring for chronically sick relatives. Most importantly, a poor diet can shorten life expectancy*” (p. 8). The concern of food businesses on this issue may be due to political awareness and sensitivity, and a perceived need to be saying the right things, but it will also relate strongly to economic sustainability through the enhanced market performance that ‘healthier’ products may bring. Given this context, the analysis suggests the following areas as important for food policy development.

Diet and nutrition—encouraging healthy food choices. A clear finding is the widespread identification of the interplay between food, diet and health and the need for greater promotion and education with respect to health and food. Concern for this matter runs from the farming sector where there is apprehension about a lack of understanding of farming and food, through to retailers with their concern for food related education and assisting favorable, healthy food consumption trends. At the same time, consumers themselves recognize the negative impact of a poor diet and the need for adult and child education with respect to food and health. Policy in this area needs to be multifaceted, addressing not only consumer behavior with respect food choice, but also lifestyle issues and the conduct of the food industry with respect to food promotion and food content.

The importance of local food. Local food, and the many issues that it involves, was well to the fore in the responses of all stakeholder groups. For consumers there is a strong favorable attitude towards local food and local food production, and a concern that such food should be accessible (assisting equity between socioeconomic groups). Local food is seen as important for maintaining farming,

generating local employment and income, its favorable consumption attributes, and as an important component of food security in its widest sense. Processors value the quality and traditions of Scottish food and see it as a basis for building business activity and reputation. Similarly, retailers have favorable views in relation to Scottish food and its supply, whilst recognizing the commercial importance of local food sourcing and provision (from both the aspects of consumer appeal and the logistics of food procurement). Policies which recognize the multi-dimensional value of local food systems would appear to be able to deliver sustainability benefits on several fronts.

Building sustainability on sound economic performance. Concern for sustainability and its many high profile aspects—such as carbon footprints, waste reduction, food mile reduction, and greater efficiency in energy use—is evident in the responses of all stakeholder groups. Thus the importance of sustainability, and particularly concern for environmental sustainability, as part of the requirement to achieve intergenerational equity, is universally recognized. For businesses, however, this is commonly associated with cost savings (e.g., reduced energy use or waste), public image or market positioning; which are all strongly related to economic performance [14,23,24]. Not surprisingly, there is a predominant concern with economic sustainability amongst business stakeholders. For primary producers and processors, this centers on profits, prices and subsidies for farmers, whilst for retailers it relates to remaining competitive whilst complying with regulatory requirements. One implication of this finding is that beyond those farmers and businesses which have a strong ethical drive to operate with great social and environmental concern, social and environmental sustainability needs to be built upon sound economic performance. Moreover, legislation which seeks to gain greater social or environmental sustainability may under-deliver if businesses regard it as detrimental to their competitiveness and long term economic sustainability. This will be particularly the case for policies which seek to exemplify and encourage environmental and social sustainability without a financial reward. However, environmental sustainability may also be furthered by financial support for environmentally friendly investment or where it is tied to good environmental practices.

Supermarkets: market power, collaboration and sustainability. A major equity issue to arise relates to the power of the supermarkets. This power and dominance featured strongly in the responses of both farmers and consumers. Processors concerns took a slightly different form, being expressed in terms of low margins and contractual uncertainty. However, supermarkets are clearly the dominant players or leaders of their supply chains and as such have the ability to direct positive changes with respect to environmental and social sustainability. The importance of such issues in their strategic pronouncements provides a basis for encouraging collaborative activity with their suppliers, not only to secure commercial benefit for those concerned, but in the longer term on the other dimensions of sustainability as well. Thus policy needs to recognize the primacy of economic concerns, and to seek whole chain and collaborative approaches to improving food chain sustainability.

Regulation and support in building human and technical capabilities. Across food supply businesses there is a common need for support and encouragement in developing capabilities with respect to sustainability. Greater environmental regulation requires new knowledge, skills and business systems, which necessitates appropriate education and training, whilst enhanced technical capabilities will normally require financial investment.

5. Conclusions

The results of this research aim to support coherent strategic approaches that take into account trade-offs which address the conflicting needs of stakeholders, food related communication and education requirements, as well as regulatory and legislative efforts to enhance all facets of sustainability in the Scottish food supply chain.

An interesting observation arising from the National Food Policy discussion was the willingness of food and drink sector stakeholders to engage so strongly in the process of policy development. As the discussion focused strongly on Scotland and Scottish society, the stakeholders' statements included broad perspectives of problems and challenges, perceived solutions, articulated opportunities and conditions for their realization. A vast array of factors in the macro- and microenvironment were mentioned, very often in the light of individual cases and specific examples. Actors in the supply chain expressed their views on the role of government and other institutions in ensuring the sustainability of food and drink production and distribution in Scotland. National pride, knowledge, quality of resources and tradition were often indicated as possible sources of competitive advantage. On the other hand, wasted opportunities and a lack of interest or understanding by decision makers were sources of frustration for respondents. There were common interests within and between stakeholder groups, but also visible were the areas of conflict of various origins (e.g., consumers were generally against the introduction of GM products whilst in contrast, producers favored the controlled introduction so as assist productivity improvement). Also, the responses to the discussion were often seen by the stakeholders as an opportunity to indicate where reality falls short of their expectations.

When applying a broad sustainability framework it is clear that Scottish food chain actors are largely concerned with the current state of affairs and prospects for the food sector. The two of them are intertwined in the responses and there is a collective consensus that economic success is required to ensure food sector development and the survival not only for businesses, but communities around Scotland as well. The resilience of food supply systems is seen as important in developing high potential consumer markets, which thanks to education and responsible consumption behavior could provide dynamic and progressive demand for food that can be supplied by sustainable food production and distribution methods.

The question arises as to whether such a wealth of facts, thoughts and opinions, as well as emotions, could be used to aid the direction of food policy? Undoubtedly, each sector in the food industry requires particular decisions that could enhance its sustainability by tackling specific challenges. However, common issues faced by the farming sector, food processing and distribution, as well as consumers, should be addressed in a way that benefits Scottish society at large. A further requirement for policy development is to gain a better understanding of where clear complementarities exist between the different dimensions of sustainability, for example where the pursuit of economic sustainability may also serve environmental sustainability (such as waste reduction which leads to decrease costs). In such situations, sustainability may be primarily driven by commercial considerations and the role of policy may be purely to facilitate the process or "to leave well alone". In other cases, where clear conflicts exist, more forceful policy interventions may be needed. These are areas to which the authors' research has now turned.

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Appendices

Appendix 1—Brief description of the Scottish Food and Drink Sector

The Food and Drink Sector is a key sector of the Scottish Economy [25]. It not only comprises agriculture, fishing, and food and drink manufacturing but also encompasses a large supply chain that includes food and drink wholesaling, retailing and the food service sector.

According to the most recent figures in 2008 [26] the gross value added (GVA) of the food and drink supply chain was £10.2 billion (approximately 20% of the total Scottish GVA) with turnover of £34.1 billion. The supply chain was estimated to comprise 76,200 businesses—most of them very small firms (1–10 employees)—and employs approximately 369,200 persons across Scotland.

GVA in the agricultural sector increased consistently during the period of 2001 to 2004 and then decreased sharply from £1 billion to £0.6 billion in 2005. This was caused by a change in subsidies to the sector. Since 2005, GVA in agriculture increased to £0.8 billion in 2007 and then dropped to £0.7 billion in 2008. GVA in sea fishing increased from £95 million in 2001 to £144 million in 2008. Similarly, GVA in all four sectors of the food and drink industry (*i.e.*, manufacturing, wholesaling, retailing and non-residential catering) increased during the period of 2001–2008. The total GVA in the food and drink industry increased from £6.4 billion in 2001 to £9.2 billion in 2008.

There is no information about the sectoral composition of the food and drink supply chain GVA. As regards the Scottish agricultural sector, finished livestock and livestock products contributed 37% and 14% respectively to the value of total agricultural output in 2009 (£2.261 billion), cereals, horticulture and other crops contributed 11.1%, 10.6% and 9.4% respectively. Information about composition of food and drink manufacturing indicates that beverages accounted for 63% of the total GVA, followed by meat and fish processing each contributing 7%.

Total sales of Scottish primary produce amounted to £3.1 billion in 2007, of which 21% were purchased by Scottish processors and 20% by Scottish households. Non-Scottish purchasers accounted for 47% of the total sales and Scottish primary producers for 6%.

The Scottish food and drink sector has a strong international reputation at the luxury end of the market, driven by whisky, salmon, seafood and beef, and enhanced by strong brands. In fact, overseas food and drink exports from Scotland are worth £5 billion a year. Whisky is the top exporter for Scotland. Overseas food exports are £800 million a year (fish and shellfish make up the largest proportion (55%) of food exported overseas), while food imports from overseas are £900 million a year (approximately 58% from the rest of the EU). Fruits and vegetables are the sector with the largest trade balance deficit (£93 million in 2009).

As regards consumption patterns, data for 2008 indicate that meat accounted for 21% of Scottish consumer's total expenditure on food—the greatest share. Bread flour and cereal accounted for 13%, whilst alcoholic drinks and milk, cheese and eggs each accounted for 11%. Expenditure on fruit and vegetables was 15% and expenditure on fish was 5% of the total.

Appendix 2

Table A-1. Explanation of each one of the categories used in the analysis.

Economic dimension	
Capacity for food production	Capacity for expanding food production in Scotland given its climate and natural amenities. Identification of types of food and drink that could be produced most efficiently.
Drinks industry	Recognition of the drinks industry and its contribution to Scotland's exports and economy, and its relationship with farming and tourism.
External factors affecting food supply	Issues external to the Scottish food and drink industry such as energy prices, EU legislation and global markets. Also, climate change.
Fairtrade	Attitudes to fair trade goods, their pricing and availability, as well as their origin and the terms of trade.
Farming industry	Maintenance of Scottish agricultural production and the quality of its production, and protecting good agricultural land to ensure appropriate food security. Includes significance of small scale production.
Fishing Industry	Maintenance of fish stock and a viable fishing industry, so as to maintain fishing communities and fish as an important dietary constituent. Includes fish farming.
Food Chain Collaboration	Food chain collaboration ensuring effective, efficient and sustainable food supply which meets the needs of the businesses involved and consumers.
Labor market—skills, jobs	Provision of employment by the food and drink industry. Provision of training to food and drink industry's employees. Attractiveness of sector as a career choice.
Prices—producer	Commodity prices received by the producers for the inputs into food and drink production.
Processing capacity in Scotland	The number and type of food processors and manufacturers in Scotland, their sourcing and selling strategies and competitiveness issues. Includes the provision infrastructure, including abattoirs and good transport links. Requirement for cohesion / collaboration in enterprise development support.
Product market—direct sales	Food sold directly by producers, its prices and impact on farmers' income.
Product market—exports	Identification of overseas markets for Scottish food and drink products and ways of expanding those.
Product market—public sector	Scope for public procurement in providing Scottish food and drink industry with opportunities to supply the local establishments.
Product market—supermarkets	Prices set by supermarkets, their market power and contribution to the Scottish economy.
R&D	Product innovation as well as innovation in methods of growing of food, its processing, storage and packaging. Also, R & D relating to food science and nutrition. Maintenance of agricultural productivity, including GMO adoption. Plus Knowledge Transfer activities related to R&D.
Tourism	The role and contribution of Scottish food to tourism industry and how food policy can promote Scotland as a country to tourists. Catering sector as it relates to tourism.

Table A-1. Cont.

Environmental dimension	
Animal welfare	The condition of livestock in farms, animal disease and ethical considerations. Plus welfare of animals in transit.
Environmentally friendly food production	The impact of agriculture and food processing on the environment in terms of pollution, greenhouse gas emissions, energy consumption, land use and waste. Includes concerns about GM production.
Food miles (other)	All other consideration in the food miles argument. For example, the balance between food miles and energy intensity of local production.
Food packaging	Use of less packaging while still providing adequate food safety. Raising awareness about recycling and provision of recycling facilities.
Food waste	Excess of food bought but not consumed by households, as well as waste generated by the food supply chain.
Local food & food miles	The impact of local production and consumption on the environment in terms of the carbon footprint of the distance travelled by food.
Organic production	The costs and benefits of organic production (perceived and recognized) in terms of health benefits, ethical issues and environmental impact.
Social dimension	
Access to food	Location of supermarkets and other retail outlets in rural and urban areas, formation of food deserts and public transport issues in such areas. Availability of good quality food in deprived areas, and for disadvantaged groups. Also, community food schemes.
Adult education	Provision of cooking guidance and information about food nutrition and food production in places like community centers, and distribution of information leaflets and brochures. Further and Higher Education in relation to Food Science and Technology.
Diet and nutrition	The link between diet and health and well being. Includes health benefits of fruit & vegetable, availability and consumption of junk food, product formulation e.g. additives, salts, fat etc. Plus R and D in relation to Diet and Nutrition.
Education in schools	Provision of cooking and information about food nutrition and food production through school classes, plus practical experience and involvement of children in growing and preparing food.
Food and drink advertising	Regulation around advertising and promotion of food and drink high in fat, sugar and salt especially that aimed at children audiences.
Food labeling	Provision of information about nutritional content of food, its origin (including environmental issues) and ingredients on its packaging, including information provision for food provided by the catering sector.
Food safety	Health and safety standards in production, storage and transportation of food and drink. Raising awareness about health and safety when cooking and storing food at home.
Grow your own	Environmental impact of households growing own food as well as its effect on overcoming the problem of food deserts, and improved understanding of where your food comes from.

Table A-1. Cont.

Health promotion	Promotion of healthy eating and diet through media. Also promotion of healthy eating and diet by the public sector through media and wider initiatives. Plus ethical behavior of businesses in facilitating healthy diets.
Local food & local communities	The role of local food producers and processors in supplying the surrounding communities with fresh food, outdoor activities such as “pick your own” farms.
Local food & local economies	The impact of Scottish food industry on regional employment, income and general welfare. Including Government financial support for farmers and the food sector.
Prices—consumer	Prices paid for food by the consumer, mainly refer to prices set by the retail and catering sectors.
School & hospital meals	The content of meals provided in public establishments (e.g., hospitals, schools <i>etc.</i>) with regards to their quality, nutritional content and freshness.
Traceability	Availability of information at each stage of the supply chain about the origin of food and the route it has travelled.

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