

The importance of the informal food economy to food access and security: An examination of the Western Isles of Scotland

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ABSTRACT

In many countries the informal food economy (IFE) plays an essential role in ensuring food access and security. In addition, IFEs can improve choice, have a positive impact upon diet as well as generate household income and employment. While studies have primarily focused upon the role of IFEs in developing economies, their importance within more developed rural markets warrants further attention. This paper draws upon key learnings from the existing literature and examines how IFEs operate within a developed, rural economy. Framed within a social economy framework, it examines the role and function of IFEs across the Western Isles of Scotland. Despite being part of an advanced market economy, food access and security in this region has previously been identified as problematic for particular consumer groups and communities. The research identifies that due to the continued expansion of the formal retail sector and the growth of on-line delivery, food access has become less of an issue for many island residents. This is not to suggest that IFEs are inconsequential. Apart from their role in strengthening social and community linkages, for certain segments of the island population they continue to play a key role in providing food access. The research also identified an increasing reliance upon a small number of national retail chains. This suggests, that in future, food security in remote and rural communities could become increasingly vulnerable to market externalities.

1. Introduction

The issues surrounding food access and security have been the subject of numerous academic studies (Sen 1981; Swanson and Bruni-Bossio, 2019; Webb et al., 2006). Originally, the locus of the debate surrounding the alleviation of poverty centred upon the supply of food and considered the impact of economic policy, global market change and natural disasters upon production. Sen (1981) however suggested that deprivation and hunger were not always the result of failures in supply and that food shortages within a particular market may be due to constraints on access. Even in markets where food was widely available, specific groups and individuals could experience difficulty of access.

Since Sen's work, there has been a shift from the macro to the household level and a focus upon how families access food in the marketplace (Webb et al., 2006; Ma et al., 2016; O'Hara and Toussaint, 2021). The concept of food insecurity primarily relates to an individual's access to food rather than its production. This insecurity often manifests itself through spatial inaccessibility (limited retail provision) or

economic inaccessibility (unaffordable food prices). In many countries the informal food economy (IFE) plays an essential role in helping to manage food insecurity and ensuring the adequate supply of food to both rural and urban households (Moustier et al., 2023; Resnick et al., 2023).

Definitions vary over the exact nature of the informal food economy as numerous points of intersection often exist within the formal sector. Essentially, it operates outside of the formal regulatory and economic structures and includes the production, distribution and sale of food and related services. Typically, it involves individual or small business operations and may include bartering, direct farm sales, roadside and street traders. Previous research has highlighted the benefits that stem from an active IFE. In addition to making food available for low-income families, the IFE has been shown to improve food choice, have a positive impact upon diet and generate household income and employment in the urban environment (Chikazunga et al., 2007; Crush and Frayne, 2011; Wegerif, 2020).

While a number of academic studies have examined the role of informal markets and casual employment within advanced economies,

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(Sassen 1994; Williams and Windebank, 2002), perhaps surprisingly, only limited attention has been given to the operation of IFEs (Boels et al., 2013). The importance of the informal food sector has been primarily considered within the context of developing nations and the urban landscape (Moustier et al., 2023; Resnick et al., 2023). However, isolated and rural communities in developed markets also face challenges around food access and food security. The extent to which IFEs play a role in more developed economies and in remote environments, therefore warrants further attention. Moreover, the impact of the pandemic in highlighting issues related to food access and security in rural areas provides additional impetus for such a study (Glass et al., 2023; McIntyre and Roy 2023).

The aim of this paper is to identify the importance of the IFE in providing food access and security within a remote rural setting in a developed market. To do this it focuses upon one Scottish island group, (variously known as Na h-Eileanan Siar/the Outer Hebrides/Western Isles), a location characterised by remote communities, an inadequate transport infrastructure and a fragile economic sector. Previous research in the Western Isles also identified that for particular consumer groups and island communities, food access and security was judged to be problematic (Freathy and Calderwood, 2014, 2016; Marshall et al., 2018). The paper builds on this earlier research to explore how island residents access the informal market, the networks involved and, its importance as a means of food provision. Empirical data was collected during field visits by the research team to the Western Isles and involved observations and interviews with crofters, local retailers, producers, and community groups identified in advance to elicit a range of perspectives. On the basis of this investigation, the paper puts forward a model that conceptualises IFEs in the context of a developed island economy.

To achieve its aim, the paper will be structured as follows. First, it will examine the various conceptual definitions of an informal food economy and consider their relevance to a developed market. It will

argue that the uniqueness of place and complexity of localised food provision requires food access to be understood through a spatial lens in order to acknowledge differences in the pattern of demand. A contextual section briefly details the reasons for choosing the Outer Hebrides and outlines the structure of food retailing across the islands and the specific challenges faced by island residents. The research itself is based upon qualitative interviews and a series of follow up workshops with island stakeholders. This was supplemented with site visits and inputs from a panel of academic experts. The findings detail the operation of IFEs and their role in the provision of food access on the Western Isles. Finally, a series of theoretical and empirical conclusions are drawn, and future research themes suggested.

2. Conceptualising the informal food economy

The informal food economy may be conceptualised within a broader model of civil society that includes representations of State, Market and Community (Fig. 1).

Each institution is recognised as having its own distinctive properties and processes and whose importance in ordering outcomes, remains spatially and temporally dependent (Streek and Schmitter, 1985). The State provides the framework (generally through legislation and regulation) within which most exchange is supposed to take place but does not (in most countries) try to regulate all of the activities of its citizens and communities. Much of the debate around food access and the state has focused upon the various attempts made to control and document formal provision, as can be seen in Scotland (Good Food Nation, 2022). The closer an entity moves toward commercialisation and the Market (private, formal, and for profit) the greater the level of state regulation.

A similar degree of interrelatedness is evidenced between the forces of the Market and the actions of the Community. For example, greater market competition may lead to an erosion of local food provision and a

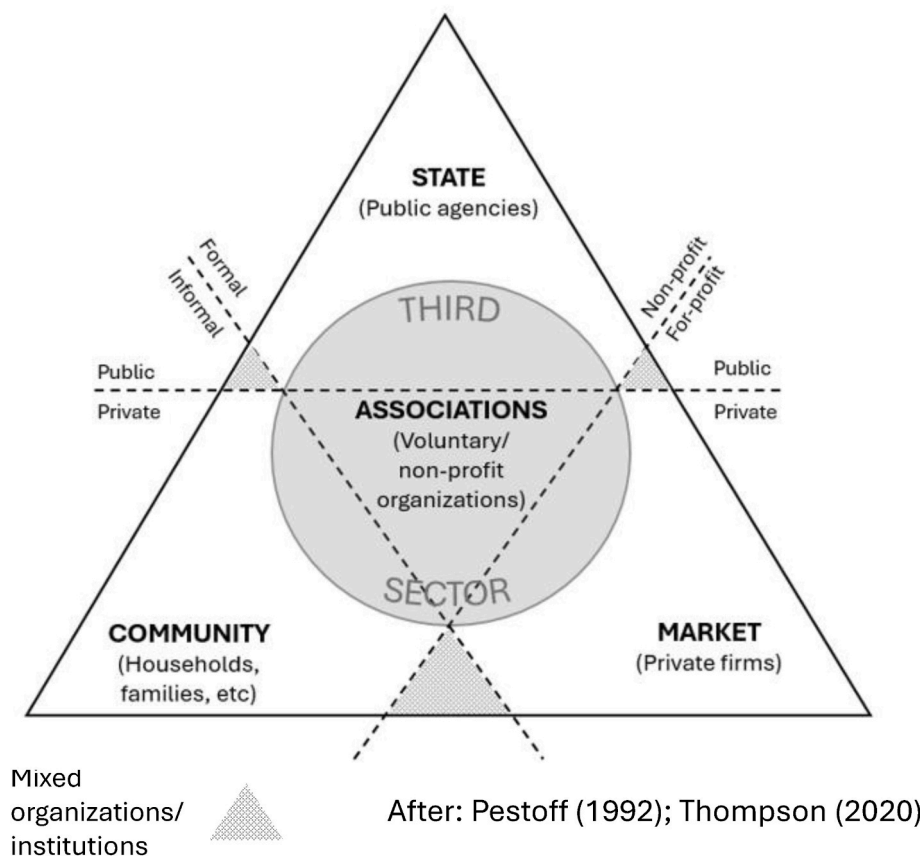


Fig. 1. The Pestoff Triangle showing the logic of the social economy (third sector) in relation to state, market and community (civil society) (Thompson, 2020).

weakening of community bonds and common values. Conversely, informal, unregulated commercial activities may serve to undermine the market operations of legitimate food providers. Again, such scenarios evolve over time and may differ according to local contexts and histories.

Also operating within the conceptual space of civil society, the Third Sector exists as an alternative to public and private sector provision. Despite the noted challenges over its definition (Corry 2010), the term is used to categorise a range of institutions concerned with the social economy. These often focus upon issues such as communal support, welfare needs and service provision. Typically, those organisations involved include co-operatives, voluntary associations and not for profit businesses (Pestoff 1992).

Within this theoretical framework, IFEs exist on the periphery of the regulatory environment and occupy positions across the Community/Market nexus. For example, at the household level, the informal food economy may include legitimate activities that are not part of the official statistical record e.g. growing food for home consumption and small micro-scale production. Alternatively, an IFE may comprise undertakings, that although illegal, are deemed to be socially acceptable due to perceived market imperfections or inequalities e.g. unlicensed traders operating in urban areas devoid of adequate food provision (Webb et al. 2006).

2.1. Characterising the IFE

Informal markets and retailers are often local and cater to customers with limited purchasing power by offering low value-added goods with minimal processing and packaging (FAO 2003). Although IFE organisations are often characterised as being more expensive and providing a lower quality and range of produce (Tustin and Strydom 2006), they may be particularly important for food insecure households that buy smaller quantities and rely on credit (Battersby et al., 2016). As IFEs are often associated with the employment of women, children and migrant communities they provide an opportunity to connect families through informal microenterprises (Metelerkamp and Mercer, 2018).

Food provision within an IFE may be through a variety of different points of access including local markets, food coops, farm shops, street sales as well as direct and doorstep sales. Add to these, home production, community food kitchens, bartering and gifting, food aid and charitable food donations and we begin to see ways in which the informal food economy may have a significant effect upon food access and security (Battersby et al., 2016). However, rather than seeing these manifestations as independent of the formal economy, they form part of the same system when we consider their links to the wider food system. Many organisations in this sector engage with formal enterprises directly sourcing raw materials or finished goods via formal and informal intermediaries.

Businesses operating within the IFE are for the most part unregistered, unregulated, untaxed operations, with limited access to government support (Magidi 2022; Resnick et al., 2023). They may be characterised by limited specialisation, low capital investment and close links between production and consumption (the informal producer can also be the end consumer of products and services).

Operating outside the regulated market can lead to competitive tensions with other food suppliers and retailers. In developing countries, the expansion of supermarkets is often seen as advantageous because of their ability to offer greater variety and choice as well as lower food prices (Ghosh-Dastidar et al., 2017; Reardon and Minten 2011; Wang et al., 2018: 1025). At the same time, it has been argued the expansion of national grocery chains can negatively impact upon local suppliers, the independent retail sector and the IFE (Crush and Frayne 2011). Local producers find it difficult to break into the established supply chains of the multiple retailers as they lack the capacity and technical expertise to provide the volumes required. Any decline in local provision and the IFE may subsequently lead to a growing dependence upon an individual

provider and adversely affect specific consumer groups.

Table 1 identifies some of the key characteristics of IFE organisations operating within a developing economy.

It is acknowledged that the purpose and function of an IFE, its scope and scale as well as its relationship to “conventional” food systems may differ significantly over time and by location. The importance of IFEs in providing food access and security is therefore dependent upon an analysis of demand as well as supply side practices. Identifying how individuals and communities access food, requires an understanding of the unique structural and social features of the local food system as well as the characteristics of those who engage within it (Hendrickson et al., 2020; McIntyre and Ray, 2023; Ortiz-Miranda et al., 2022; Tregear 2011).

For example, for residents in rural and remote communities, the role and importance of the IFE may not only be configured by limits in the transportation infrastructure and issues with existing grocery provision. Familial linkages, land ownership, community resilience and historic

Table 1
Key characteristics of IFEs in Developing Economies.

	CIVIL SOCIETY	IFE Characteristics	Examples from the literature
1	MARKET	Outside or on the periphery of the conventional food system but are not wholly separate or necessarily positioned as an alternative;	Chen (2012); Metelerkamp and Mercer (2018); Magidi (2022);
2		Seen as complementing existing food systems and a way of further provisioning household needs by increasing food choice and accessibility;	Battersby et al., (2016); Crush and Frane, 2011; Chikazunga et al., (2007); Wang et al., 2018; Marshall et al., (2018)
3		Engaged in commercial and non commercial activities;	FAO 2003; Firth et al. (2011);
4		Impacted by growth of supermarkets ;	Abrahams (2009);
5	THIRD SECTOR	May be clustered around specific product categories or speciality foods;	Tustin and Strydom (2006); Resnick et al., (2023); Zavala and Revoredo-Giha (2022);
6		Lower quality, more expensive products with low value added and minimal processing;	Battersby et al., (2016); Crush and Frane, 2011;
7		Subject to temporal shifts in seasonal demand and production;	Bonuedi et al. (2022); Burke et al., 2019;
8	STATE	Limited adherence to health or safety regulations and limited infrastructure (sanitation, utilities and refrigeration)	Zavala and Revoredo-Giha (2022); Carrilho and Trindade, 2002;
9		Not recognised in regulation , government policy initiatives and formal data collection;	Kanbur (2009); Metelerkamp and Mercer (2018); Magidi (2022); Resnick et al., (2023);
10	COMMUNITY	Involved in some element of reciprocity (but not essential);	Magidi (2022);
11		Reliant on trust regarding quality and provenance of produce;	Magidi (2022); Resnick et al., (2023); McKitterick et al., (2016)
12		Spatially aligned with local communities and smaller groups of individuals;	Metelerkamp and Mercer (2018); Magidi (2022);
13		May require local knowledge and networking ;	FAO 2003; Hemerijckx et al., 2022;
14		Provide revenue, income and employment in local communities ;	Chikazunga et al., (2007); Crush and Frane, 2011; Resnick et al., (2023);
15		Associated with migrant communities, including women and children.	Metelerkamp and Mercer (2018);

agricultural and consumptive traditions may also help to explain the role and importance of IFEs in food access and security (Bruce et al., 2021b; Davies and Reid, 2024; Freathy and Calderwood 2014; Wang et al., 2018). Accepting the uniqueness of place reinforces Sen's (1981) contention that overcoming the barriers to food access often requires a micro rather than a macro level focus as well as placing potential limits on any broader generalisations (Hess, 2004). To better understand these spatial complexities the informal sector may be placed within a model civil society.

3. Context

The Outer Hebrides comprise an archipelago approximately 210 km long, off the western coast of Scotland. It is commonly divided between the northern Islands, which include Lewis and Harris, and the southern Islands, which include North & South Uist, Benbecula, Barra and Vatersay. It has a population of 26,640, of which approximately 23% live in the main town Stornoway on the Isle of Lewis (Scottish Government 2023a). The Scottish Government's Urban/Rural Eight-Fold Classification 2016 (Scottish Government (2018b)) combines population threshold and accessibility information to identify the Western Isles as comprising both 'Very Remote Small Towns and 'Very Remote Rural Areas'. This is evidenced with the islands having a population density of approximately nine persons per square kilometre, a figure which reduces to six persons per sq km outside of the main urban area. Such figures may be compared to a Scottish average of 70 persons per/sq km and a UK average of 271 persons per/sq km.

The Scottish islands have been recognised as being amongst the most disadvantaged and economically fragile regions of the UK (Bruce et al., 2021a; Copus and Crabtree, 1992; Copus and Hopkins, 2018; Scottish Government, 2008, 2010; Scottish Government, 2023b). This fragility is derived in part from their physical isolation and compounded by an over reliance upon particular industries, limited employment opportunities and an inadequate transport infrastructure. In 2009, the Scottish Government labelled the rail network as deficient while air and sea links were identified as being expensive and subject to seasonal fluctuations (Laird and Mackie, 2009; Laird 2020). These geographical and economic limitations have a number of implications for island consumers. Given that the majority of goods are delivered by sea, the quality, variety and shelf life of products may be affected prevailing weather conditions and ferry availability (Byrom et al., 2001, 2003; Marshall et al., 2018; Schiffing et al., 2015).

While the challenges of supply manifest themselves in island towns, these problems are compounded in more remote and sparsely populated island locations (Rural Development Commission, 1994; Skerratt, 1999; Carnegie 2007, 2008; SAC, 2012; Marshall et al., 2018). Scotland's Futures Forum (2010) recognised the vulnerabilities of the Scottish islands and current government policy aims to improve the social and economic prospects of the Isles as part of the Empowering Scotland's Island Communities initiative (Scottish Government, 2014). This recognises the challenges in the islands around geography, distance, connectivity, and demography (Scottish Government 2018a, 2019, 2021).

The islands are served by several national retail chains located in Stornoway in the north, four medium general stores located across the islands and thirty-nine small general or specialist food stores, including independent grocers and general food stores, along with sixteen specialist retailers including butchers, bakers, fishmongers. E-commerce

and online grocery delivery services are available, but this remains a key challenge in remote communities (Newing et al., 2022; Marshall et al., 2018; Freathy and Calderwood, 2016).

Within the Western Isles, households may also access food through a variety of other channels including crofts,¹ community co-operatives and social enterprises (CCSE), community gardens and food banks. In addition, food may also be acquired through gifting, bartering, via door to door selling, honesty boxes, local markets and quayside sales.

4. Methodology

In order to meet the aim and objectives set, the research was divided into two stages. Stage One comprised a set of field visits to the Western Isles and involved qualitative interviews with island residents across Lewis, Harris, Benbecula, Barra, Vatersay and the Uists. The purpose of this initial stage was to understand the contribution that the informal food economy made in the provision of food access. This was followed by three workshops comprising both academics and practitioners. These were designed to theoretically frame the concept of IFEs, triangulate the validity of the findings from the first stage as well as consider the future of food access on the islands.

The fieldwork in Stage One, included qualitative interviews with island residents including crofters, local retailers, producers, community groups and a local councillor (Appendix One). Discussions centred around their professional and personal consumption experiences, in particular the physical and economic challenges of accessing food and the extent to which informal food networks represented an important part of food provisioning. Through these meetings we were able to construct narratives around the food practices of those living and working on the islands. Altogether 21 interviews were held over a period of three weeks. Interviews lasted between 30 and 90 min with data from these interviews being digitally recorded. During this phase, over 20 hours of formal, qualitative research material was logged.

As the research sought to overcome some of the noted conceptual limitations identified in previous studies (Merrilees and Miller, 2008; Plewa et al., 2011) all data were analysed using directed content analysis (Hsieh and Shannon, 2005). As respondents in Stage One occupied a number of different roles, each individual was asked to narrate their own personal experiences and elaborate where necessary. In addition, to the formal interviews, *participatory conversations* with local residents provided further insights into island consumption practices (Swain and King 2022). These discussions were not formally recorded and comments were not immediately transcribed.

The fragmented narratives from the formal and informal interviews were then used to construct an understanding of the island's informal food economy and obtain a sense of the 'whole' (Tesch 1990). Through an iterative process of reading and re-reading the collected data, the aim was to develop an understanding of how IFEs operated on the islands and develop a series of questions to be discussed at the workshops.

The first workshop in Stage Two comprised eight academics (not including the research team) with research interests in consumption, rural development, economic geography and social policy. This workshop was held face to face and focused upon how IFE's are conceptualised in the literature and the various issues surrounding their definition. The workshop began with a series of presentations from the research team and discussed some of the key findings of the study. This was followed by a series of discussion groups that considered how IFEs

¹ A croft is a small unit of land on average 3–5 ha which is normally held in tenancy. The land may be rented from a landlord which sometimes has a house attached. In the Western Isles over three quarters of the land is in crofting tenure. Despite crofting being increasingly championed as a model for rural development and sustainable communities, limited data means the extent to which it contributes to food access and security remains uncertain (Scottish Government 2021b; Crofting Commission 2022, 2023; Scottish Farmer 2020).

might be theoretically envisioned and the relevance of such definitions to a developed Scottish island economy. The composition of each discussion group was determined in advance to ensure a broad mix of specialisms and expertise. A final plenary session chaired by one of the research team drew together the primary findings from the workshop. It acknowledged that a variety of frameworks have been adopted when examining food access and reaffirmed the limited focus upon IFE's within the context of developed markets.

Prior to the commencement of the second workshop, the research team were invited to present their preliminary findings to the Scottish Government Cross Party Group (CPG) on Rural Policy at Holyrood. This comprised four Members of the Scottish Parliament (MSP's) and almost sixty non-MSP group members from across Scotland. The aim of this presentation was to gain further understanding of the issues relating to food access as well as reaffirm the accuracy of the investigation.

Workshop Two examined the relative importance of the informal food economy to island communities. Held on-line, it comprised practitioners from the Western Isles including crofters, independent retailers, community workers, independent producers as well as consumers (Appendix Two).

The invited participants were selected for their expertise and experience in areas relevant to food access and included several individuals from the field interviews. The workshop was attended by eleven individuals (excluding the research team) and began with a presentation of the empirical findings from Stage One. This allowed participants to comment and expand upon specific points raised in the initial interviews, reaffirm individual facts and confirm the accuracy of the data gathered. Triangulating the research in this manner ensured that any island specific issues relating to food access were identified (Brownlie and Saren, 1997).

The final workshop was also held virtually and focused upon future options and strategies. Having gained an understanding of the main issues surrounding food access, the aim was to identify what solutions island residents felt were feasible going forward. The meeting was again chaired by a member of the research team and comprised three short (10 min) presentations from island stakeholders. A local crofter, food producer and project officer were each invited to discuss what initiatives and policy interventions would have the greatest impact upon food access and security. These presentations were followed by a series of in-depth discussions, again led by the research team. Workshop Three was primarily comprised of those individuals who had attended either of the two previous workshops. However, due to other commitments, not all participants were available. Altogether twelve individuals attended workshop three (Appendix Three). Both workshops two and three were recorded with the permission of the attendees and again all data were subsequently transcribed.

All data from the stages one and two were analysed using directed content analysis. The analysis drew on field notes, interview recordings and transcripts, photographs, workshop transcripts, and publicly available information from organisational websites. Emergent themes were identified through listening to recordings, reading transcripts, drawing on observations and field notes. The recordings were read by two of the research team and the collected data either allocated to pre-determined categories or assigned a new category. Emergent themes were discussed in regular research team meetings, project workshops and at an invited presentation to a Scottish Government public meeting. The data collection stages are illustrated in Table 2.

5. Empirical findings: the IFE in a developed economy

How IFEs are structured and their importance in the provision of food access, requires a micro level focus and an understanding of locationally specific influences that may evolve over time (Sen 1981). In the context of the Scottish islands, the research identified three distinct, (but related) food access points that could be described as being distinct from the formal regulated sector. These revolved around informal production

(hobbyists, micro producers and crofters), community supported activities (community gardens, food banks) and independent provision (local markets and community shops).

5.1. Informal production: hobbyists, micro producers and crofters

The research identified numerous examples of home cultivated produce that was bartered, swapped and gifted. These hobby growers primarily produced food for their own household and distributed any surplus amongst friends, family and the local community. Respondents noted that to be offered fresh produce was "always welcome" and that it meant "not having to buy from the supermarkets". Although this form of sharing was common practice at certain times of the year, product availability tended to be irregular and unpredictable. Typically, such activities were prompted by one or more individuals having a seasonal glut of fruit or vegetables. No interviewee suggested that this form of exchange represented an essential form of food access for island residents even in more remote and isolated communities. Although these small scale, ad hoc transactions did not significantly contribute to food access, they may represent important mechanisms for reinforcing a sense of community amongst local residents rooted in everyday life (Jehlička and Daněk 2017; Turner and Rojek 2001; Goszczynski and Wróblewski 2020; Banjeree and Quinn 2022; Hingley et al., 2010).

The research also considered the importance of other forms of informal transaction that included indirect sales through honesty boxes, door to door selling and the distribution of quayside surpluses (the sale of goods from permanent premises such as farm shops were considered separately). Included within this category were micro producers offering single items for purchase (such as eggs or potatoes) or a range of items including eggs, cheeses, milk and fresh vegetables. It was also noted that some sellers offered a limited range of processed products such as jams, mustards and bakery goods. Again, findings from the research suggested that this form of supply was complementary to the islands' formal provision and certain products were often targeted more towards the tourist market than the local population.

Crofting represents a form of food production unique to the Scottish Highlands and plays an important role in supporting communities, providing common purpose and aiding the rural economy (Scottish Government 2023c). While this system of land access and ownership has been extensively detailed, its contemporary importance to the informal food economy has received only limited academic attention (Russell et al., 2021; Combe, 2020).

During field interviews a community shop owner and crofter based in the northern Islands suggested that the growing of vegetables on crofts remained a common and widespread practice. At the same time, it was noted that the overwhelming majority of crofters were hobby growers and that such activities were no longer undertaken as a means of self-sufficiency or for commercial purposes. In addition to the rising costs of growing crops (purchasing polytunnels, fertiliser etc.) and keeping livestock (feed, slaughter costs etc.) crofting remained a physically challenging activity. As one respondent noted;

'I once planted a commercial crop of potatoes on my croft. It was hard work and very labour intensive. When I worked out my return, it was less than 50p per hourSome people still do this but it tends to be older folk. For many, it is much easier to have a full time job that pays a proper wage and spend your spare time on the croft.'

(Crofter and Micro Producer, northern Islands, fieldwork interviews)

A small number of crofts supplied local cafes and produced enough eggs and vegetables to sell at market or in the local store, however the majority were not geared towards commercial, horticultural production. Like other hobby growers, many crofters did supply food for the informal food economy (primarily via family and friends). However, there was no evidence to suggest that this represented a necessary alternative or important substitute channel. We have no way of determining the scale of home production although the appearance of local

Table 2
Data collection.

Secondary Data Collection and Analysis	Qualitative Interviews (May–June 2022)	Participatory Conversations (May–June 2022)	Triangulation of initial Research Findings	Workshops (August 2022–April 2023)
Previous literature on: The Informal Food Economy; Consumption behaviour on Scottish islands Regular Research Team Meetings	21 interviews with island residents including crofters, local retailers, producers, community groups and local councillor.	Informal conversations with island residents Observations and field notes Store visits to: National and local retail chains; Community Retail Stores Community Gardens and Micro Producers residents Photographs/local media publications	Presentation to Scottish Government Cross Party Group (CPG) on Rural Policy at Holyrood. Audience comprised four Members of the Scottish Parliament (MSP's) and almost sixty non-MSP group members from across Scotland.	Workshop One: Academic attendees Workshop Two: Island Residents Workshop Three: Combined academic and islander audience

produce and honesty boxes around the island suggests that for some producers there is a surplus beyond the household requirements.

Both crofters in workshop two did note how crofts in the northern Islands were commonly used for the raising of commercial livestock. Typically, this involved the rearing of sheep, pigs or cows by individuals who owned or rented land. While the rearing of livestock represented an important source of income for crofters, its relevance to the islands IFE, remained limited. It was acknowledged by one crofter that familial and social networks led to some (properly slaughtered) meat being “sold under the radar” and one respondent noted how he offered a carcass in lieu of the crofts rent. However, the additional costs associated with the rearing of livestock meant that much of what was produced on the islands was too expensive for the local market and therefore sold on the mainland. This was illustrated by one interviewee who reared sheep on a croft, (while also working full time). Once old enough, animals were transported to the mainland for fattening and slaughter. While a small proportion of the product was returned and distributed through an informal network of friends and colleagues, the overwhelming majority entered national supply channels.

5.2. Community supported activities: community gardens and food banks

The resilience of island communities has in part been attributed to a shared historical and cultural past and a collective sense of belonging (Currie et al., 2021; Glass et al., 2023). The research therefore explored whether a range of supported agricultural and horticultural activities represented important channels for food access. The research identified that local food initiatives were focused upon enhancing community health and wellbeing and promoting social inclusion. For example, one organisation operated a community garden as well as providing home care, transport and support for the elderly. For this provider, the purpose of food production primarily revolved around education and encouraging local residents to grow their own produce. Both the community charity CEO and community garden manager reported that if there was a food surplus, they were happy to offer it for sale and would deliver pre-prepared vegetable boxes to the local community on the southern Islands. However, income generation was not their main focus nor was the initiative considered a primary channel for food access. Rather, the aim was to encourage individuals to engage more with their environment as well as eat more healthily. As one of the community managers remarked, “Gardening here is a big experiment.”

In common with other findings from this research, issues such as the restricted growing season, constraints on space and poor soil conditions all limited food production within Community Gardens and other local food initiatives. This had been partly ameliorated by the availability of poly tunnels especially designed for the Scottish islands (polycrubs). These provide protection against the weather and extended the growing season. However, despite one community garden distributing ten

polycrubs across the island, it was recognised that the physical size of many garden spaces negated the opportunity to create any level of scalability or subsistence. While the research identified community gardens to deliver upon pastoral, educational and skilled based outcomes, their contribution to the IFE and to food access was negligible.

Previous studies have identified the essential role that food banks play in food access.² Our research provided a similar finding. One food bank manager noted that there was a lot of ‘hidden poverty on the islands’ and a stigma still surrounded their use, as they went on to explain

‘To begin with, there was a huge suspicion, do we need a really need a food bank? are we not a community that can support our own ... we meet in the dark of night in car parks to hand over food in winter, in particular, can you come after 5.00 when it’s dark’(Foodbank Organiser, southern Islands, fieldwork interviews) ‘

This finding reinforces Shucksmith et al. (2023), who noted that individuals often did not wish to reveal they needed support. For this reason, some food banks exercised discretion by delivering parcels to homes in the evening, making food parcels available for collection at registered locations and delivering to bus shelters where individuals could help themselves. The main demand was for the basic items rather than fresh, chilled or frozen produce. Products primarily comprised items sourced from the national retail chains such as the Co-op, Tesco, local independents and other providers in the formal economy.

5.3. Independent provision: local markets and community shops

How local markets and community shops are categorised within the IFE literature remains subject to academic debate (Calderwood and Davies, 2013; Smithers et al., 2008). It is however reasonable to suggest that both represent a potential form of food access for island residents. The research identified a number of small, independently run markets operating in both Lewis and Harris as well as in the Uists. However, their impact upon food access was peripheral. There were no examples of daily markets operating all year round and opening was often restricted to a limited number of hours on certain days of the week. The research also noted that one market continued to advertise although it no longer was in operation, while another advertised solely on Facebook and Instagram (representing a potential access barrier for those who do not use social media).

A range of factors appeared to restrict the wider availability of food markets on the islands. Apart from limitations to the growing season

² The Trussell Trust reported a 50% increase in the use of their food banks in Scotland since 2017/18 and distributed almost 260,000 parcels to Scottish homes in 2022/23 (Trussell Trust, 2023).

already identified, there appeared a shortage of suppliers able to produce the quantities required to consistently meet consumer demand. While there had been an increase in the demand for allotments on the islands, production was primarily for own consumption rather than surplus creation.

One horticultural producer who ran a stall on Lewis noted how the sales of locally grown products were now a quarter of what they were ten years ago. While previously they had been supplied by more than a dozen local suppliers, currently there was only a single provider.

As they commented:

‘I’m afraid selling through the stall, footfall in the middle of Stornoway on a Saturday morning is a lot lighter than it used to be’ (Community Gardens supervisor northern Islands, Workshop 2).

The market no longer operated in Tarbert village and only met once a week (for part of the year) in Stornoway. The limited importance of markets to the island’s food economy was further noted by one resident who considered them to be too expensive for locals and geared more towards tourists visiting the islands.

In contrast to local markets, community shops provided an important channel for food access. The literature notes that community shops may adopt a variety of organisational forms ranging from stores who operate out of permanent premises with full time staff and are more characteristic of the regulated sector, to those shops staffed by volunteers, open one or two days a week and located in a church or village hall. Whether an individual outlet is classed as part of the IFE is therefore locationally dependent and determined by specific spatial and temporal considerations.

Community shops on the Western Isles existed in more rural, isolated communities where there was an absence of formal provision or where other forms of unregulated provision (such as local markets) was insufficient to meet customer needs. The stores displayed a high degree of regulation and operated regular trading hours, offered a range of services to both visitors and local residents (laundry, gift shop, museum) and remained reliant upon national supply and distribution networks. Despite being established to meet local demand, some community providers were heavily reliant upon the tourist trade to sustain their businesses, with sales being up to six times higher in the summer months.

In addition to being established to help overcome supply inconsistencies in more remote markets, community shops provide a single point of sale for local producers. Their autonomy provided them with a degree of flexibility over stocking policy and allowed them to respond more directly to local needs without the formal approvals normally associated with the regulated retail sector. For example, one community shop manager stated that 30% of their stock came from local suppliers while another had begun a “refillery” that sold loose products. This allowed their customers to buy what they needed rather than purchase pre-packaged quantities. Similarly, they were able to offer locally sourced, value-added products (such as jams/chutneys and cakes) as well as fresh local produce. Where a local supplier was able to provide goods, these were generally taken on a sale or return basis.

Another store had accepted a large donation of potatoes with proceeds from their sale being used to raise money for local causes. While the gifting of produce is commensurate with the practice of an IFE, being resold in this manner is uncommon in a regulated market. Although not necessarily classed as part of the islands IFE, they fulfilled many of the criteria noted in Table One and focused upon meeting community need.

6. Discussion

This research suggests that on the Western Isles of Scotland, hobby growers, crofts, community gardens, local producers, markets and micro producers all contributed to the islands IFE. At the same time, there was little evidence to indicate these channels represented an essential or necessary form of food provision. This is not to suggest that IFEs are inconsequential. Apart from strengthening social and community

linkages, CCSEs and Food Banks were key to providing food access in more remote rural locations and to certain segments of the island population (Jehlička and Daněk 2017; Turner and Rojek 2001).

While the research details the characteristics and importance of an IFE in a developed economy, the focus upon a single Scottish island group limits the opportunity to draw more general conclusions. The uniqueness of place identified by Sen (1981) is evidenced in the Western Isles with factors such as crofting, community land ownership and traditional agricultural practices all contributing to a unique set of determinants in food provision. However, using Table One as the basis for comparison between IFEs in a developed and developing economy, further research may wish to consider the following:

First, the research identified examples where the islands IFE *strongly mirrored* the characteristics of those in developing countries. For example, both could be considered outside or on the periphery of the conventional food system but, at the same time, not wholly separate from it (Chen 2012; Metelerkamp and Mercer, 2018; Magidi 2022). Similarly, food banks and community shops complemented existing food systems and represented a means of further provisioning household needs by increasing food choice and accessibility (Battersby et al., 2016; Crush and Frane, 2011; Chikazunga et al., 2007; Wang et al., 2018; Marshall et al., 2018). In addition, IFE activities such as community gardens and community shops undertook both commercial and non-commercial activities (FAO 2003; Firth et al., 2011).

Second, it remained possible to identify characteristics that had some, *partial similarity* with IFEs in developing economies. Previous research also suggested that IFEs in developing countries may be clustered around specific product categories or speciality foods (Tustin and Strydom 2006; Resnick et al., 2023; Zavala and Revoredo-Giha, 2022). While food banks and community shops, provided a broad and eclectic range of products, hobby growers, crofters, and micro producers tended to adopt product specialisation and offer a limited range of food products. Perhaps, due to the diverse nature of the islands IFE, it remains difficult to unequivocally state that products were of either of a lower quality or were more expensive (Tustin and Strydom 2006).

Community shops were considered to be more expensive than the multiple retailers; however, as they were linked to mainland supply chains, they were able to offer consumers a range of quality, fresh and branded produce. As the primary aim of community gardens was educational, any food surplus was distributed within the local area. This meant that at certain times of the year, consumers could purchase fresh produce more cheaply than in the commercial retail sector. While many of the products available in the IFE did consist of low value-added items that required minimal processing, there were also examples of small-scale micro producers supplying value added items such as jams, chutneys and baked goods (Battersby et al., 2016; Crush and Frayne, 2011).

Although the research was not able to explore the level of involvement in policy initiatives or the adherence to operational regulations, it was noted that community gardens were formally regulated and could receive Scottish Government Funding. Interviews with the community shops also revealed that they were subject to the same legislative controls as independent and multiple outlet retailers. This included compliance with health and safety procedures, the maintenance of a retail infrastructure (sanitation, utilities and refrigeration), and the observation of financial regulations (Zavala and Revoredo-Giha 2022; Carrilho and Trindade, 2002; Kanbur 2009; Metelerkamp and Mercer, 2018; Magidi 2022; Resnick et al., 2023).

Finally, there was *no evidence* that island IFE’s were associated with migrant communities or children (although the majority of our community interviewees were female) (Metelerkamp and Mercer, 2018). There was also little evidence from the research to indicate IFEs were an important source of employment (Chikazunga et al., 2007; Crush and Frane, 2011; Resnick et al., 2023). Reinforcing previous studies, the research identified that elements of the islands IFE were subject to temporal shifts in seasonal demand and production, displayed elements of reciprocity and were reliant on trust regarding the quality and

provenance of produce (Bonuedi et al., 2022; Burke et al., 2019; Magidi 2022; Resnick et al., 2023). While community shops, micro producers and farmers markets often targeted the tourist market, community gardens, crofters and food banks were spatially aligned with local communities (Metelerkamp and Mercer, 2018; Magidi, 2022).

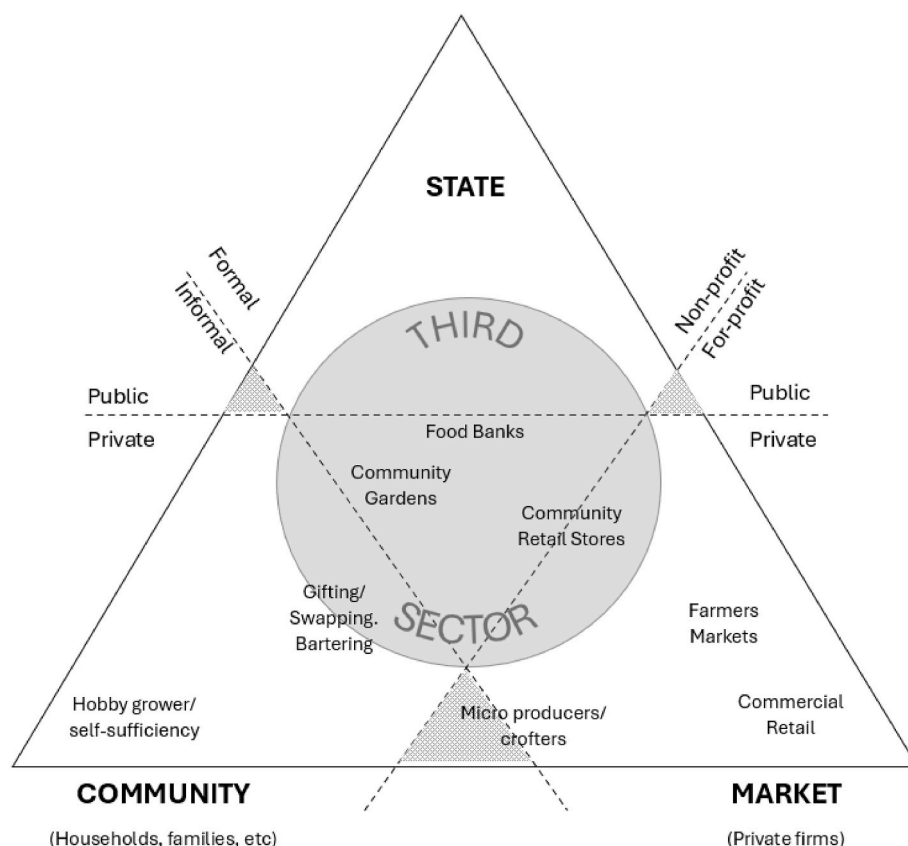
It was noted that IFEs in developing economies were often dependent upon local knowledge and the existence of an established family/community network (FAO 2003; Hemerijckx et al., 2022). This was also evidenced amongst islands residents with meat, fish and vegetables being informally distributed amongst friends and family. Perhaps one of the strongest parallels identified in the research, was the impact that the growth of the supermarkets had upon the IFE. As this form of retailing has expanded, it has led to the contraction of the informal sector as well as placing significant pressures upon local retailers and producers (Abrahams, 2009). The findings from this research suggest a comparable scenario. The existence of a relatively efficient, formal food sector across the Western Isles appears to have negated any need to rely upon the informal market. Within a developed economy, such findings are perhaps unsurprising, however previous research (Freathy and Calderwood 2014, 2016; Marshall et al., 2018) identified that Scottish island residents, especially in more remote areas, had experienced difficulties in food access and choice. This was primarily due to the majority of grocery stores being spatially concentrated within the main urban area and a deficient transport infrastructure. Island residents were required to either to travel to town or rely upon (the limited, more expensive) local provision. Since this research was undertaken, the grocery sector has continued to evolve with national retail chains now offering online delivery to households across the Outer Hebrides.

6.1. Conceptualising the IFE in a Developed Economy

Using the conceptual framework of civil society and social economy (Fig. 1), the research findings allow us to develop a model of food access on the Scottish Isles (Fig. 2). While the focus upon a single island group is an obvious limitation, these observations may form the basis for additional research and further refinement.

Overall, the findings confirm the diverse mix of community and market organisations involved in the informal food economy. This is in contrast to a number of studies, particularly those from South Africa, where IFEs occupy a position to the right of the Formal/Informal line. Whilst their operations may be largely unregulated, they have much stronger ties to the market (for the supply of goods) than has been acknowledged in the literature. In addition, the research highlights the relative contribution of the third sector to food provisioning on the Western Isles, the complimentary nature of the informal market and the extent to which islanders are embedded in these food networks. Evidence also suggests a heavy reliance upon the formal retail market. This leads to the principle theoretical implication of our study, that the informal food economy on the islands, with minor exceptions, is only tangentially motivated by the need to provide an alternative to the existing market provision. Those directly involved in commercial growing and production offer a limited range of local produce much of which leaves the island for finishing and processing on the mainland. Organisations centred on community support lack the capacity for wider food provision and are often driven by welfare and educational challenges.

Our study has highlighted the limited importance of the informal food economy to food provision and security irrespective of the



After: Pestoff (1992); NCVO (2012)

Fig. 2. Island Food Provision within a model of civil society (NCVO, 2012).

organisational motivations, social networks or elements of trust. Island residents recognised that food access remained primarily reliant on the formal market and were aware that these social networks could not be described as ‘overly embedded’ (Uzzi 1997; Murdoch et al., 2000). This reflects the scope and scale of the commercial sector, the alternative employment opportunities that exist within the market and the limited desire to operate outside of the legal and regulatory frameworks. Unlike alternative food networks, the informal food economy is not an attempt to replace or usurp conventional provision nor is it an ideological response to the market, rather it represents a pragmatic reaction at the local level to challenges of supply arising from adverse weather, interrupted distribution, seasonal demand and limited capacity for self-sufficiency.

Perhaps more controversially, the research challenges the contention that informal food networks are essential mechanisms for connecting island communities. While in the case of food banks, anonymity and stigma rendered the networks essentially invisible, more broadly, produce grown and distributed locally, appeared to play only a limited part in connecting established groups and linking to those outside the community.

7. Conclusions and Future challenges: safeguarding food access and security

While *food access* appears to have become less of an issue for many island residents, concerns remain as to whether online availability may serve to disadvantage specific consumer groups. Sen (1981) noted that the factors that lead to spatial or economic inaccessibility requires a micro rather than macro level focus. This includes an understanding of the unique structural and social features of the local food system as well as the characteristics of those who engage within it. Initial findings suggest that online availability on the islands may have mediated some of the issues around unaffordable food prices and limited retail provision. The growing popularity of supermarket online provision on the islands, not only negates the relevance of IFEs, it may serve to further compound the competitive pressures upon local providers (Abrahams 2009) or accentuate the differences between remote and urban areas where major retailers are located (Newing et al., 2022). The impact of large multiple retailers upon the sustainability of the UK independent sector is not new (Baron et al., 2001; Davies, 1976; Dawson, 2000; Dawson and Kirby, 1979; Guy, 1996). How the independent food sector is adapting to the growth of e-commerce and the consequences for those residents unable to purchase goods online, remains unclear. As such, it raises the question whether *technological inaccessibility* may now come to represent a key determinant in food provisioning.

From a *food security* perspective, three significant issues were identified in this research. First, if as the findings suggest, island residents are becoming increasingly dependent upon large multiple retailers and mainland linked supply chains, to what extent will communities become increasingly vulnerable to market externalities? While short term disruption through weather conditions and ferry loss have already led to food shortages and rationing (Herald, 2020), less attention has been given to the longer term, structural risks that may threaten food provision. For example, what if either of the two national retail chains who operate on the island adapt their business model (such as reducing their level of online provision, closing smaller outlets or even ceasing to trade)? The dominant market position held by these organisations means there would undoubtedly be a significant gap in the island’s food supply. Under such a scenario, it is unclear how food access would be maintained in the short, medium and longer term.

Secondly, while there remain numerous examples of entrepreneurial and innovative production amongst island businesses, (Scottish Food Coalition, 2022) it is uncertain whether such activities are capable of safeguarding the food supply. Our findings reinforced the work of Bruce et al. (2021a) which suggested that a significant proportion of what is produced within an island economy is high quality/luxury produce and

aimed at the tourist market or shipped to the mainland. The research also noted that a number of respondents felt that there were opportunities for some crofters and horticulturalists to expand their production by supplying bodies such as the NHS and schools on the islands. However, the absence of a co-ordinating body to aggregate produce, overly complicated procurement policies, a lack of meat processing facilities and price competition were all factors that mitigated against a more substantive role for local producers. A key research question therefore revolves around the appropriateness of local food provision (formal and informal) on the islands and, to what extent could any disruption in access and security be met by these remaining sources?

Finally, under a scenario of external market change, it is reasonable to expect local and national policy makers to develop strategies that safeguard the future of food supply on the islands. The Scottish Government’s Islands (Scotland) Act (2018) acknowledges the social and economic impact of rural deprivation, an ageing population as well as housing and skills shortages. Moreover, they have developed regional food and drink plans for the islands and are committed to:

Work with the food and drink industry to leverage its economic potential and explore options for sharing some of its benefits with island Communities.” (Scottish Government 2023b)

To date however, there appears to be little or no recognition that food security on the islands remains susceptible to the types of market externality identified in this paper, nor is there evidence of contingency planning in respect of this potential vulnerability. It could be argued that this is not exclusive to this case or island communities as many developed rural markets face similar challenges and are equally reliant on the commercial food sector. This is perhaps unsurprising, as Woodhill et al., (2022) recognise, many of the challenges facing policy makers in rural locations often goes unrecognised. Rather than broad statements of intent, we would suggest there remains the need for more nuanced research around the regulated retail sector, small scale island production and food security.

What these findings mean for the future of the informal food sector on the Western Isles remains uncertain. On the one hand, it is possible to see a scenario where most forms of non-commercial retailing continue to remain a peripheral form of food access. As this study has illustrated, IFEs do not provide the same role or function as those in developing economies. At the same time, public concern over food miles, pressures upon the global food chain, consumer demand for provenance and local produce, could lead to a reassessment of food provisioning. Such a move may be made more likely by the Scottish Government’s stated desire to make a number of Scottish islands more sustainable by having a carbon neutral footprint by 2040. Should such a policy emerge, then it is feasible that we may once again see an enhanced role for the IFE.

CRedit authorship contribution statement

Paul Freathy: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **David Marshall:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Keri Davies:** Writing – review & editing, Methodology, Investigation, Formal analysis, Conceptualization. **Eric Calderwood:** Writing – review & editing, Project administration, Methodology, Investigation, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Paul Freathy reports financial support was provided by Royal Society of Edinburgh. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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Appendices

Appendix 1

Island Fieldwork Interviews

Community Store Manager (southern Islands)
Community Garden Manager (southern Islands)
Food Bank Organiser (southern Islands)
Community Café Board member (southern Islands)
Abattoir Proprietor (southern Islands)
Abattoir Proprietor (southern Islands)
Community Trust Project Officer (southern Islands)
Horticulturist (southern Islands)
Development Manager (southern Islands)
Community Shop Manager & Crofter (southern Islands)
Community Charity CEO (southern Islands)
Community Charity Research and Development Officer (southern Islands)
Community Garden Manager (southern Islands)
Island resident and Business owner (southern Islands)
Community Store Manager and Crofter (northern Islands)
Community Store Manager (northern Islands)
Food Bank Manager (northern Islands)
Community Gardens Supervisor (northern Islands)
Community Trust Project Officer and Crofter (northern Islands)
Crofter & Micro Producer (northern Islands)
Community Store Manager (northern Islands)

* The northern Islands include Lewis and Harris; the southern Islands include North & South Uist, Benbecula, Barra and Vatersay.

Appendix 2

Workshop Two Contributors

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Development Manager (southern Islands)
Commercial and Development Manager (southern Islands)
Community Charity CEO (southern Islands)
Community Charity Research and Development Officer (southern Islands)
Community Garden Manager (southern Islands)
Community Garden Project Officer (northern Islands)
Crofter and local Councillor (northern Islands)
Community Gardens Supervisor (northern Islands)

* The northern Islands include Lewis and Harris; the southern Islands include North & South Uist, Benbecula, Barra and Vatersay.

Appendix 3

Workshop Three Contributors

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Crofter & Micro Producer (northern Islands)
Five University Academics (not including the research team)

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