Short supply chains for local food in mountain areas

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Abstract: *The paper focuses on factors responsible for the resilience of short, local food supply networks formed in mountain areas. A case study of Community Interest Company located in remote area of Scotland have shown that trust and relationships amongst supply chain participants in the supply chain and other stakeholders are critical factors in overcoming infrastructural and market barriers to the development of a successful local enterprise. Indeed the most significant success factor for a community based enterprise is the integration of actions in multiple fields leading to the fulfilment of diverse needs of individuals and local organisations.*

Keywords: *alternative food networks, supply chain, community.*

Introduction

The paper aims to investigate factors responsible for the resilience[2] and long term survival of short, local food supply networks formed in mountain areas characterised by low population density, remote location and underdeveloped infrastructure. A case study of an alternative food network established with participation of local goverment and umbrella institutions, individual food producers and distributors and financial aid provided by policy measures provides an input for evaluation of long term success factors of such community based enterprise.

Small scale, alternative to the main stream local production and distribution systems such as farm shops, farmers' markets, direct delivery and mail order schemes, and other non-commodity solutions have developed throughout the last decade of the 20th century. The next stage of such development that ensures survival, temporal and spatial resilence seems to lie in formation and evolution of community based networks that facilitate utilisation of social capital, its skills and knowledge.

Alternative food networks can be described as *„new and rapidly mainstreaming spaces in the food economy defined by – amnong other things – the explosion of organic, Fair Trade, and local. Quality and premium speciality foods"* (Goodman and Goodman, 2009). Moreover alternative food networks bring together production and consumption of food both in spacial and contexteual terms. In case of specific, unique locations tied up with other products and services such as mountain areas and tourism and leisure, alternative food networks are significant instruments that can enhance both economic and social resilence of these regions. Also in many cases the alternative food networks have a clear positive impact on immediate environment of food production to mention but few: reduction of chemical means of production, more effective polution control, reduction of food miles etc. These influences on economic, social and environmental dimensions of local communities, together with enterprise governance modes that apply non-economic priority orders can earmark alternative food networks as sustainable and viable, long term alternative to industrial, economy of scale orientated food production and distribution. Indeed from the point of view of economic and social geography the strenght of such alternative systems of productions lies in the networks themselves rather than food quality itself (Watts et al., 2005).

[1] The authors thank their partners in the EuroMARC Project for their participation in development of in-depth interviews guidelines.
[2] Resilence is here understood as an ability of a network to withstand external shocks caused e.g. by changes in economic conditions, food scares and other unforeseen circumstances.

Recent developements in production, distribution and marketing of local food are seen also in the context of re-connecting food with identifiable origin and its soci-cultural, geographical, economic and natural environment. In case of mountain food this “re-placement” of local food is very often related to specific and unique raw material characteristics, traditional technologies of production and/or processing and finally a place brand that can hold specific values for individual groups of consumers; be that in the local or remote markets that are likely to be developed and survive long term.

On the other hand mountain areas in most developed countries are protected through formal institutions, multistage legislation and also local communities that wish to protect biodiversity, landscapes and cultural distinction of these mountain regions (Soliva et al., 2008).

There is an abundance of evidence on the role of local communities in inception and support of local food networks also in the context of long term survival and success in remote markets. When considering remote and mountain areas the evidence of sustainable survival and development of local food production is not so broad in its scope.

Several factors are mentioned in the literature as crucial in ensuring long lasting operational and community based local food support such as participation of NGOs (Nel et al. 2007) and active consumer support of community wide goals and values (Seyfang 2007). Participation of diverse producers and vertical integration of networks (Heer and Mann, 2010) as well as food citizenship understood as behaviour supporting sustainable food system (Lockie, 2009; Wilkins, 2004) are cornerstones of successful local food supply. As in many cases the overall political and economical environment determines specific business and local community decisions, the policy related incentives for individual economic, social and goals could yield different economical and social results (Eaton 2007).

In case of direct sales such as at a farm gate or via farmers’ markets, the re-connection happens primarily between consumers and producers, in the community supported local food production the emphasis moves onto social embededness, trust and relationship formation and maintenance (Hinrichns, 2000).

Alternative food networks as a counterpart of conventional food production and distribution systems very rarely are discussed in the context of supply chain. Short specialist, local food supply chains are considered “a hybrids” (Maye and Ilbery, 2006) supplying multiplicity of outlets, on short term contract and/or demand dependent verbal agreements. The supply chain perspective applied by Ilbery and Maye (2006) for analysis of local food retailing in Scottish-English borders where discerning factor was the type of retail outlet used by final consumers, seems to provide a viable framework for evaluation of local food distribution where multiple producers supply multiple wholesale and retail outlets using common brand and distribution infrastructure. In this model Input Suppliers of various food categories connect via different channels with the main distributor (The Business) to the final consumer. Additional links in such supply chain could be processors, caterers and supporting distribution channels. Such representation however does not take into account other stakeholders as for example community leaders or institutions. Another issue related to supply chain of local food and local community support is the leadership or chain directorship; the success of local food chain can be enhanced where a small local producer assumes leadership role in the network (Heer and Mann op. cit.).

Overall existence of local food networks could be considered an important factor that facilitates both inception and development and effectiveness of food supply chains (Mikkola, 2008).

The Case Study

The case study of Skye and Lochalsh Food Link (SLFL) provided an insight in the development and long term survival of alternative food network in a remote mountain region of Scotland. The case study in this investigation involved collection of secondary data, participant observation – use of narratives of a person involved in the community initiative from its inception till present. Three interviews with producer members, one with retail and one with catering outlet owners as well as one with representative of local authorities provided primary data on data collection. The interviews focused on investigation of the three main drivers of alternative food networks: trust, regional embeddedness and place (Marsden and Renting 2003). The SLFL as community based initiative supports local food supply chain in many ways: from physical distribution of food providing transport that serves producers and distributors of local food in the region to creation and certification of local food brand.

The Isle of Skye is the largest island of the Inner Hebrides and together with a mainland part of the region called Lochalsh, constitute separate administration and statistical geography region. The Isle of Skye is situated off t the West Coast of Scotland and together with, Lochalsh and Wester Ross could be considered as one of the most fragile areas of Scottish Highlands (after North East and Central Sutherland and South/west Caithness) due to socio-economically disadvantaged and/or have suffered economic decline in comparison to other Highland regions (HIE, 2009). The four major geo-demographic features that characterise the region are: population sparsity; relative population decline; low level of prosperity; and peripherality.

The population of Skye and Lochalsh as estimated by General Register Office for Scotland in 2008 (2009) is above 12,500 inhabitants. (General Register Office for Scotland, 2009). Projections are for a further population increase of 4.8% by 2017 and for an increasingly ageing population to reach above 13,000 people due to migration to the area. These changes are prompted by decreasing birth rates and older age of people in-migrating to Skye and Lochalsh. At the same time limited education and job perspectives causes out-migration of Skye and Lochalsh inhabitants to more populated areas of the UK and abroad.

Highland and Island region of Scotland is very sparsely populated with a density of 8 persons per sq km. The population density of Skye and Lochalsh is even lower with 4.5 persons per sq km.

In terms of overall economic performance of the area the Gross Value Added in relative terms (compared to the UK as a whole) in both Highlands and Islands and also S&L regions has declined in the period from 2003 to 2007 (Office of National Statistics, 2009). Moreover when comparing regional GDP contributions, additional costs related to infrastructure and investment in remote areas, lower the true production values included in the GDP calculations.

Relatively low GDP/ GVA across the Highlands & Islands can be attributed to the following:

- low earnings sectors have a high share in local economies and high earnings sector have low share;
- high number small, low profit/margin businesses (farms and crofts, sole traders etc.);
- low incomes in tourism accommodation and local services;
- high seasonality in employment (increasing the unemployment rate in the winter); and
- remote location, sparsity of population, high construction and infrastructure costs.

Due to the structure of employment and demographics of the region the specific level of skills and age structure of population are the barriers for the development of businesses and diversification of existing enterprises. In consequence employability of workforce on Skye and training resulting training needs constitute a challenge to policy makers and the growth of local economy.

Transport infrastructure in Skye and Lochlash is characterised by low coverage by public transport, long distances between major towns and settlements, difficult driving conditions and low traffic volume.

The Skye and Lochlash as a part of the UK is influenced by the UK government that controls economic, monetary and fiscal systems, and regulates general business environment and Scottish Government that influences Scottish political, legislative and economic factors.

Local government is represented in the area by two major institutions: Highland Council that focuses on administration and governing function and Highland and Island Enterprise (H&IE) that is in charge of more strategic, long term development of the whole region. Highland Council is involved in support of economic and social development of the area via specific assistance that is provided by

The Enterprise Trust for the Highlands which is wholly owned by the Highland Council company that offers a wide range of financial assistance, business support, youth services, and European Consultancy to Small and medium–sized businesses.

Highlands and Islands Enterprise is the Scottish Government's economic and community development agency for a diverse region which covers more than half of Scotland. Local offices are dispersed throughout the whole area of Highlands and serve as "prime point of contact for businesses, communities and individuals looking for our assistance and advice". Highlands and Islands Enterprise has a sub-regional branch – Skye and Lochalsh Enterprise (SALE) – based in the case study area.

Social development of S&L area is supported by number of voluntary initiatives. Over 200 community groups are members of Skye & Lochalsh Council for Voluntary Organisations.

Financial support given by various institutions in the region varies and initiatives such as SLFL use multiple sources of financing projects that are of interest for different organisations. Major sources of funding within different programmes in the region are EU Leader like initiatives, the UK government, Scottish Government, Highland and Island Enterprise (H&IE), Highland Council and smaller, charitable organisations targeting specific needs of the region. Detailed breakdown of financial support from individual sources of funding for the region is not available.

As far as effective use of available funding is concerned, previous research (Dargan and Shucksmith, 2008) carried out in the Skye and Lochlash area identified specific barriers using the example of LEADER funds uptake the major one being innovativeness of completely new projects. Although some of proposed ideas were new to the region, they were rarely innovative due to the region characteristics and its limitations. Project piloted by regional and national agencies were seen as more accessible (Dargan and Shucksmith, op. cit).

Skye and Lochalsh is recognised as top tourist location in Scotland and one of the first 'food tourism' destinations in the Highlands and Islands. Craft products and local food are available in popular destinations and are marketed in relation to historical and cultural attributes. Food products have ecological attributes related to clean environment and particular geographical features (e.g. 600 miles of the coast, mountains, glens). Although there is no specific product category ascribed to the region; similarly to the rest of Highlands game meat, lamb, speciality cheeses and herbs dominate locally promoted food categories.

Specific features that are associated with the food from the region are related to the crofting communities and tradition of self sufficiency and dependence on the natural resources.

The Skye & Lochalsh Food Link (SLFL) is a CIC (Community Interest Company) and a non-profit making organisation that serves its businesses and households by promoting and supplying local produce. The group comprises producers and processors, customers and other organisations or individuals who are interested in providing support the growth and availability of locally produced foods and recognise its importance to the environment, the economy and the health and wellbeing of its community. Located in remote area of Sky and Lochalsh SLFL is an example of successful initiative that supported production and distribution of local food since 2001. The schematic representation of SLFL role in a supply chain is presented in Figure 1 below. Analogically to the model proposed by Ilbery and May (op. cit) SLFL takes a central position of "the Business" responsible for aggregating and promoting local food produce before it reaches final consumer via final outlets. Community and institutional support is given to SLFL rather than to individual food producers and distributors separately. Support of local community for SLFL manifests itself in voluntary engagement in events and promotion of Skye food amongst visitors. "Buy local" attitude, availability of local produce in retail outlets is also encouraged by involvement of churches, interests groups and associations. Public institutions such as schools, health care establishments as well as businesses also take part in promotions organised by SLFL. Major institutional stakeholders of SLFL are Highland and Island Enterprise, Highland Council and Scottish government. These organisations apart from endorsing SLFL efforts provide also either direct financial support or assistance in securing grants. Development of local economy, social sustainability and environmental factors are of interest and within the scope of main objectives of all these organisations As SLFL is an example of successful local initiative, one can assume lasting support and ability of SLFL to secure funds for their activities. Understanding of SLFL activities in the context of the region has to underpin evaluation of SLFL success in the long term perspective.

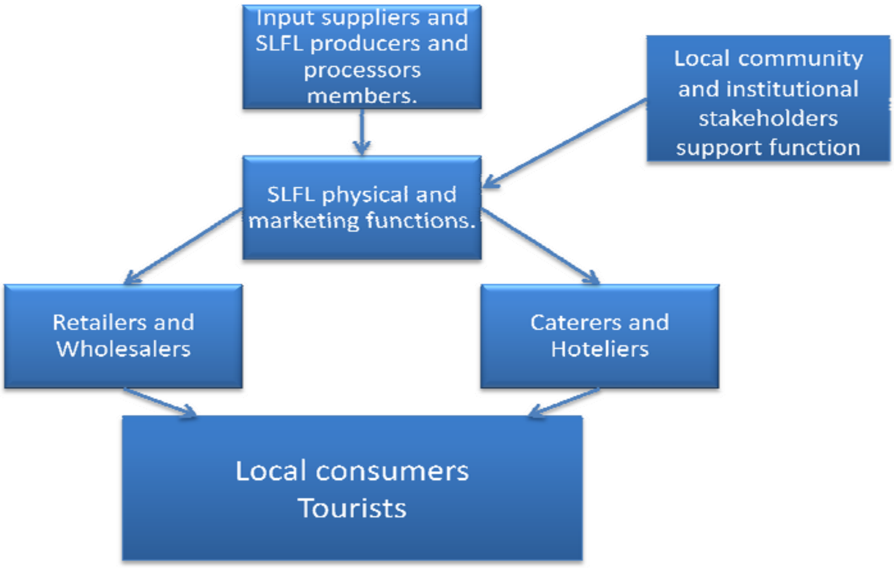

Figure 1. Supply chain of SLFL and its stakeholders.

SLFL supports physical and promotional function of marketing by supporting supplies to local shops, restaurants and hotels so both local families and visitors have an access to local food. The produce range includes locally grown fruit, salads, vegetables, herbs, meat, eggs, seafood, confectionery, preserves, cheese, and ice cream. Some of this produce is distributed using the Food Link Van.

Below the most important promotional activities of SLFL were described:

The first newsletter was produced in June 2005 and the print run increased from 200 to 500 copies. It is distributed amongst individuals, businesses, surgeries, hospitals, tourist information centres, schools and shops. Differences in age and background of the recipients determine the choice of medium – print or electronic copies are disseminated according to preferences. Food Link leaflets are supplied to businesses and individuals who have enquired about Food Link, also to Tourist Information Centres, and events attended by Food Link.

'A taste of Local Food' Awards. The new (2006) 'A Taste of Local Food Award' scheme that recognises the volume/value of local produce is designed to create awareness and raise profiles, Food Award plaques are on display at the businesses that received them.

Local produce promotions. Advertisements were placed in West Highland Free Press to recruit more producers or encourage existing to diversify and/or make better use of the Food Link van have attracted interest but it was mainly from members of the public seeking produce.

The readily updated Point of Sale displays in local shops and cafes address the need of consumers for direct information.

Food Link was included in other institutions' communication efforts namely Skye and Lochalsh Council for Voluntary Services toolkit, Highlands and Islands Local Food Network and SLHDA Publications, Positive Action, the Tourism and Environment Forum's newsletter, Food Standards Agency and Sustainable Scotland Development Forum.

The Food Link group is involved in various educational community and tourism 'food' events. Examples of such events include the Cuillin Hills Trade Show, local agricultural shows and 'Great Taste of Skye & Lochalsh'. Also Food Link organised 'Incredible Edibles', a family fun day in the spring, and a very successful Christmas Food & Craft Market.

The website is under continuous development. The new website includes different facets of SLFL, the Food Link Van information, the 'A Taste of Local Food' Awards results and promotions etc.

SLFL have grown the membership from 24 to 62 within the first six months of 2009, this has been possible thanks to funding from Scottish Food Quality Certification (SFQC) which has supported SLFL in setting up efficient systems of governance, and in increasing links between artisan production and the food service industry. SLFL aims to attract a further 100 producer, processor and buyer members across the Highlands and Islands within the next two years. Employment has been grant dependent but the employment of the driver of Food Link Van is supported by levies from producers and processors. The Food link group employed a part time marketing co-ordinator from 2003-2005 using funding provided by local authorities and industry group.

The value of locally produced food carried on the van over between 2004-2009 has increased from £6,800 to £90,000 and membership of SLFL has trebled in the last year. Earlier estimates indicate that Skye and Lochalsh residents could generate an additional £1.52m every year for their local economy by spending as little as £2.50 a week on locally produced food (McLeod, 2006). This equates to an additional £57.2m annually for the economy of the Highlands and Islands. In April 2008 a survey of Skye and Lochalsh businesses and consumers was carried funded by Community Food and Health (Scotland) to investigate responses of Skye community to National Food Policy discussion that took place in Spring 2008 (source: SLFL response to National Food Policy discussion, unpublished). Skye inhabitants exhibit strong local food identification with 57% of respondents recognising local food as 'food from Skye and Lochalsh'. Locally produced food was purchased 'wherever possible' by 64% of respondents, and 'sometimes' by 30%. When they have the choice, 45% choose local produce. The success of SLFL in the eyes of local community is futrther confirmed by the fact that 90% of respondents think that Skye has a great example of a local food network.

Major contribution to environmental sustainability is seen in optimisation of distribution of local food via Food Link Van. Economic and social sustainability of the region is enhanced by increase of production and sales of local food. The research carried out in 2006 (McLeod op. cit.) on 8 Food Link companies showed that that every one pound spent with local businesses is worth between £1.44 and £2.40 to the local economy as opposed to national retailers where each pound spent is worth just £1.15 or less to the local economy in terms of expenditure (calculated on the basis of each pound being spent 3 times over)

From the very beginning SLFL was supported by various sources of funding. In most cases this support was project driven. Two recent significant funding received was in 2006 the group received Leader + funding to carry out a range of projects. In 2007-9 SLFL received further funding from local authorities and umbrella institutions to consolidate work to date and make plans for next stage development.

Determinants of SLFL success

SLFL can be seen as community of producers, processors and distributors as well as consumers who support and promote the economic, social, health and environmental benefits of local food production. As non-for profit company SLFL made a significant impact on food landscape of Skye and Lochlash during recent decade with two most significant achievements: provision of cost effective transport in low population, mountain area and creation of regional brand carrying values for both local communities and visitors alike.

According to SLFL stakeholders the most significant contributions of this initiative were: networking, facilitation of communication, reduction of transaction and transport costs. These cost related benefits are in some cases so significant they were a major contribution to survival of food businesses.

Consumers on the other hand are provided with affordable, fresh and good quality food in small and geographically dispersed retail and catering outlets. As many of the benefits and successful functions of SLFL in the local community are related to geographical characteristics of the region, understanding of the region's social, economic and environmental context is crucial for lasting and economically viable production and distribution of food (Niles and Roff, 2008). Amongst success factors mentioned in the interviews and visible in actions of SLFL are also those related to the social capital: personal skills, commitment to common values, and responsibility for community-wide welfare. Also there is a clear recognition amongst both member of SLFL and local community alike, that SLFL effectiveness depends on members and stakeholder involvement, trust and co-operation.

Producer and processor members of SLFL appreciate both the high level of independence in business decision making and an opportunity to influence future of co-operative distribution and joint promotion and branding of local food. Empowerment in both contexts is therefore likely to contribute to effective extra- and intra- chain decisions based on experience and knowledge of producers. Buyer (retailers, caterers) members of SLFL focus on enhancement of co-operation and increase of availability of local produce and positive feedback from consumers who are keen to purchase fresh local food.

Extensive presence of SLFL in many facets of local life, recognition and liaisons with other community based initiatives as well as local authorities and NGOs enhances support and engages both institutions and individuals. Embeddedness and re-connection of food production in the area are therefore evident and likely to enhance cultural and regional identity, which has to be included in brand values attached to SLFL brand (Higgins et al., 2007).

Major barriers to further development of community supported food production and distribution in the region are related primarily to two factors: geo-demographic limitations of the markets and institutional issues such as ever-escalating bureaucracy and its pressure on time and other resources of small enterprises. Although the role of policy related funding and institutional support in creation and functioning of SLFL is evident, individual members feel very often overwhelmed by plethora of programmes and requirements to be fulfilled in order to gain help from external sources. In this context SLFL acting as a formal recipient partially alleviates this particular problem for its individual members.

Amongst factors mentioned as inhibitors of further development of SLFL personal interests, motivations and hidden agendas were mentioned frequently especially in relation to the inception stage of this initiative. These were largely overcome as networking, facilitation of communication and common actions were cited by all the respondents as main benefits provided by SLFL to its members.

Conclusions

The results of this investigation indicate that trust and relationships amongst local food supply chain participants and other stakeholders are critical factors in overcoming natural, geo-demographic barriers to developing successful local food supply. Indeed, the most significant success factor for a community based enterprise is the integration of actions in multiple fields, leading to the fulfilment of diverse needs of individuals and local organisations.

There is also evidence of incidental conflicts between supply chain members, caused by an inability to form trustful relationships (incompatible personality, individual differences between owners/managers, poor communication). Diverse interests and motivations underpinning decisions within the supply chain do not in most cases create conflicts of interest, due to the common problems related primarily to the access to markets, operational costs and lack of knowledge and business skills, especially in the area of marketing and branding. On the other hand, external support and understanding of universal gains to be obtained by all actors, facilitates consensus and long term co-operation between individual businesses. This in-turn leads to trust based relationships and shared decision-making, with regards to distribution and promotional activities. Development of extra- and intra-chain communication, common and successful branding, working together for the local and volatile tourist market are the factors assisting both strategic and operational decisions made by individual enterprises within the supply chain.

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