

Short Food Supply Chain and Sustainability

Presented by

Dr Vikas Kumar

Professor of Operations and Supply Chain Management

Bristol Business School

University of the West of England, Bristol, UK



Agenda

- About Myself
- Overview of UWE
- Short Food Supply Chains (SFSCs)
- Sustainability Linkages to SFSCs
- Food for Thought

About Me

- **PhD in Management Studies (2011)**

Exeter Business School, University of Exeter, UK,



- **Bachelor of Technology (B. Tech) in Metallurgy and Materials Engineering (2005)**

National Institute of Foundry and Forge Technology, Ranchi, India



- **Lecturer in Management (2009-2013)**

Dublin City University Business School, Ireland



- **Research Assistant (2005/2006)**

Department of Industrial & Manufacturing Systems Engineering,
University of Hong Kong, Hong Kong



香港大學

THE UNIVERSITY OF HONG KONG

Editorial/Professional Experience

- **Editorial/Professional Experience:**

- **Editor:** Co-Editor of International Journal of Supply Chain and Operations Resilience (IJSCOR)
- **Guest Editor:** Guest Editorial Experience including ABS 3* journals [Supply Chain Management: an International Journal (2014-2015) (ABS 3*); Journal of Information Technology (2014-2015) (ABS 3*); International Journal of Lean Six Sigma (2014-2016); Production Planning & Control (PPC) (2012-2013/2016-2017) (ABS 3*); International Journal of Engineering and Technology Innovation (IJETI) (2012-2013); International Journal of Lean Enterprise Research (IJLER) (2013-2014); and International Journal of Engineering Management and Economics (IJEME) (2013-2014)]
- **Editorial Board Member:** International Journal of Services, Economics, and Management (IJSEM); International Journal of Lean Enterprise Research (IJLER); and International Journal of Network and Mobile Technologies (IJNMT)
- **Technical Editor:** Research Journal of Business Management; International Journal of Manufacturing Systems; and Journal of Artificial Intelligence
- **International Advisory Board/Scientific Committee Member** for several International conferences including FAIM Korea, Wolverhampton, Helsinki, Portugal; ICMR2012, Birmingham, UK; IESM2011, Metz, France; SCMIS2010, Hong Kong, etc.]
- **Symposium co-chair for IEOM 2017 Bristol, UK and Session Chair** for special tracks at various International conferences including FAIM 2012/2013/2014/2015; APMS 2014; ICMR2012; and SCMIS2010;

Bristol, UK

Bristol is a city, unitary authority and county in South West England with an estimated population of 437,492 in 2013. It is England's sixth and the United Kingdom's eighth most populous city, and the most populous city in Southern England outside London.

The rich and eventful history of Bristol as a port stretches back over many centuries.



Bristol

BRISTOL VOTED
NUMBER 1
PLACE TO LIVE IN
THE UK

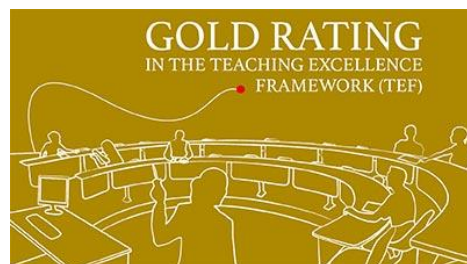


About the University of the West of England

The University of the West of England (UWE) is one of Britain's most enterprising universities. From its origins as the Merchant Venturers' College in 1595, UWE is now one of Britain's most popular universities.

With over 30,000 students and 3,491 staff, UWE is the largest university in the south west of England, and one of the largest employers in the Bristol area.





Research Groups/Centres at UWE

Bristol Business School is one of the leading post-1992 university centres for research in the fields of business, management and employment. BBS support a thriving and vibrant research community with over 100 academic staff and large numbers of research students.

1. Research Centres of Excellence

- i. Centre for Applied Legal Research
- ii. Bristol Centre for Economics and Finance
- iii. Bristol Leadership and Change Centre

2. Other research clusters

- i. Applied Marketing Group
- ii. Human Resources, Work and Employment Group
- iii. Innovation, Operations Management and Supply Group**



Innovation Operations Management and Supply Group (IOMS)

- Innovations in the Digital Economy
- Service Science
- Sustainability
- Business Models
- Value
- Lean Process Improvement
- Costing & Procurement
- Complex Networks
- Process Modelling
- Supply Chain Management



Research Links Workshop on

“Short Food Supply Chains: A Pathway to Sustainable Development and Employment Creation”

(March 21-23, 2016)

Bangkok, Thailand

Funded by: British Council, Newton Fund, & Thailand Research Fund (TRF)



Defining Short Food Supply Chains

1. SFSC are characterized by

1. A minimal number of intermediaries between the producer and the consumer.

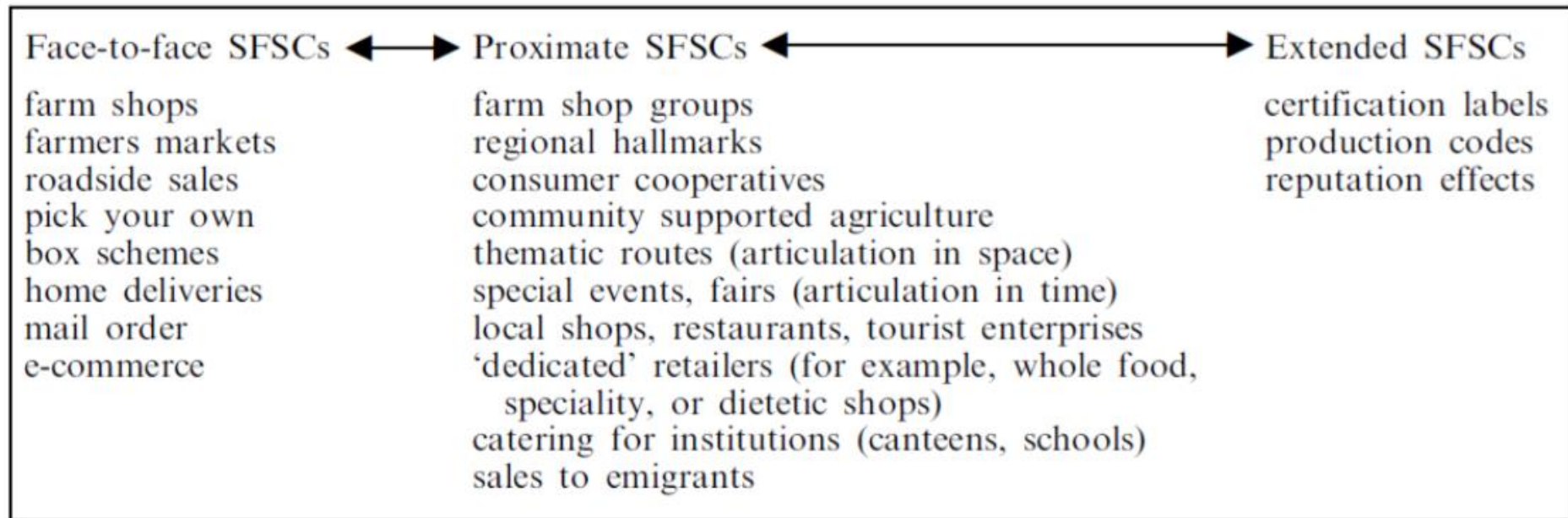
2. Review of the Literature / Past Projects

1. Local Food Systems in Europe (2010) Case studies from five countries and what they imply for policy and practice (FAAN)
2. EU Rural Review (2012) Local Food and Short Supply Chain
3. Short food supply chains and local food systems in the EU: A state of play of their socio-economic characteristics (2013)
4. Short Food Supply Chains as drivers of sustainable development. Evidence Document (2013)
5. From Farm to Folk: public support for local and sustainably produced food (2015)
6. The Hidden Benefits of Short Food Supply Chains- Farmers' Markets Density and Body Mass Index in Italy (2015)
7. Is the short food supply chain an efficient solution for sustainability in food market? (2016)

How short is short? Flexible Definitions

Organization	Definitions
US 2008 Farm Act	≤ 400 miles from its origin and has to remain within the states
CPRE, UK	≤ 30 miles from the store
FARMA, UK	≤ 30 miles = ideal radius ≤ 50 miles for larger cities and remote areas ≤ 100 miles = maximum recommended
The Netherlands	≤ 40 kilometers from the Supermarket
Ministry of Agriculture, Food and Forestry, France	Direct selling or indirect selling when only one intermediary
European Network for Rural Development	The shortest options being direct sales to the producers

Types of SFSCs



Source: Renting *et al.* 2003: 399

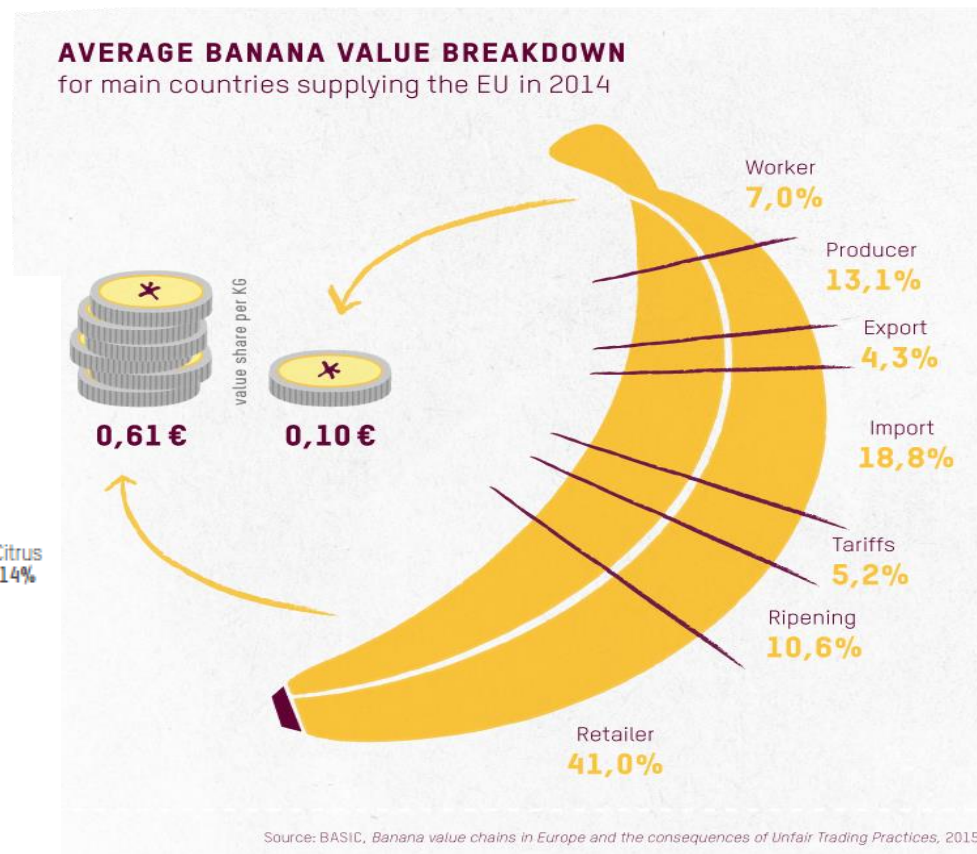
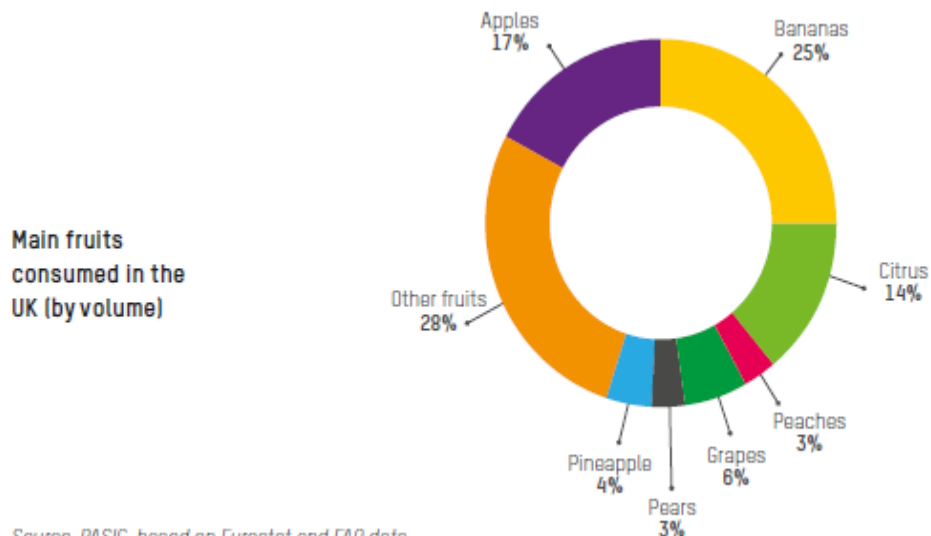
Meanings Attributed to SFSCs

Meaning of food in SFSCs	Meaning of production-distribution system in SFSCs
<p>“fresh”, “diverse”, “organic”, “slow”, “quality”, “seasonal”, “traditional”, “local”, “regional”, “taste”, “delicious”, “food heritage”, “cultural identity”, “fair”, “sustainable”</p>	<p>“small scale”, “short”, “traditional”, “local”, “environmentally sustainable”, “embedded”, “fair”, “transparency”, “traceability”, “corporate social responsibility”, “local economy”, “lower emissions”, “rural-urban linkages”, “self-esteem” “social acknowledgement”, “prestige of food producers”, “sustainability”</p>

Why SFSC is important?

Value Chain of Fresh Banana in Modern Trade

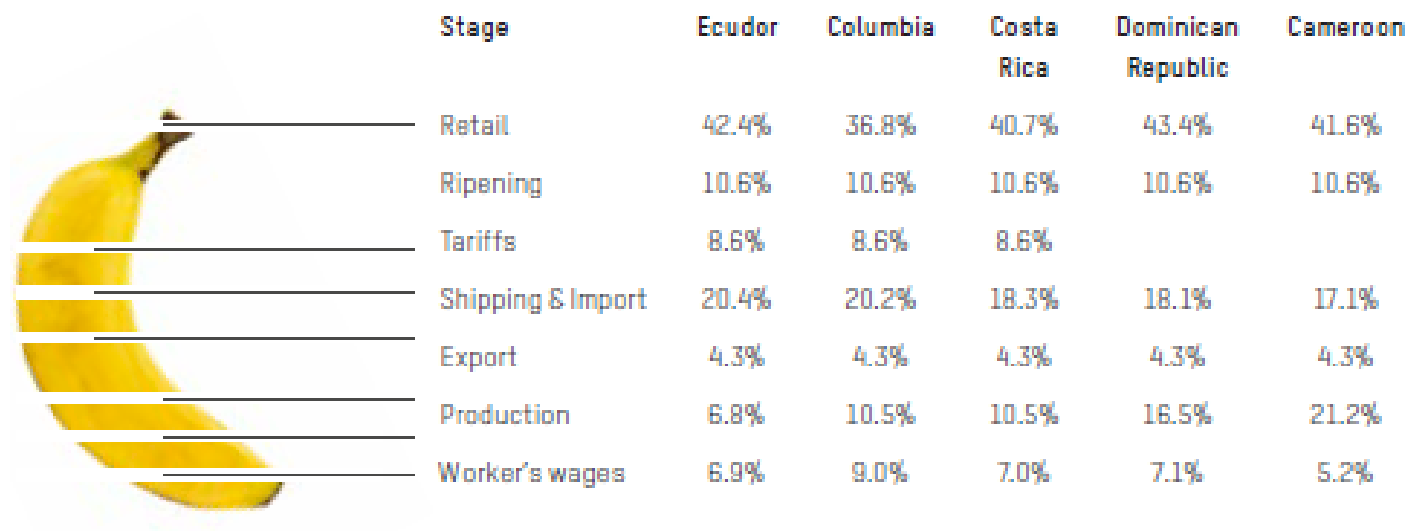
The UK market for bananas is one of the two biggest in Europe, with Germany being the other. Its total size is estimated at more than 1.1 million tonnes (or 60 million large case equivalent) in 2013.



Contd...

World banana production for export is mainly concentrated in South-East Asia, Africa, Latin America and the Caribbean. Only 15 to 20% of world banana production is traded globally (the biggest banana producing countries such as India or Brazil export very little and keep it for domestic consumption).

On average, workers only earn between 5 % and 9 % of the total value of bananas while retailers manage to capture between 36 % and 43 %.



Banana value breakdown between main supplying countries and the EU

Source: BASIC based on data from Eurostat, CIRAD, Comtrade, Sopisco and literature review

Why SFSC is important?

The Importance of Food Safety and Traceability

Traceability is most relevant when it comes to public health.



2013 Horse meat
scandal UK & Ireland



2008 Chinese Milk
Scandal

5 Dimensions of Short Food Supply Chain



Geographically

local

Food
miles

Urban-
rural



Socially

Direct
relationship

slow

Recognition



Economically

fair

**One
middleman**

Farmers'
share



Environmentally

Low
waste

**Carbon
footprin**



Health & Safety

fresh

Diversity

Local
wisdom

1. Local Weekly Market



Geographically



Socially



Economically



Environmentally



Health & Safety



2. Local Green Market



	Geographically	  
	Socially	  
	Economically	  
	Environmentally	  
	Health & Safety	  

3. Green Shops



4. Agro & Eco - Tourism



Geographically



Socially



Economically



Environmentally



Health & Safety



5. Social Media Marketing



Benefits for all farmers and agriculturist



Timeline process check by farmers



Send product to customer by the self or other



New choice is online store by all farmer

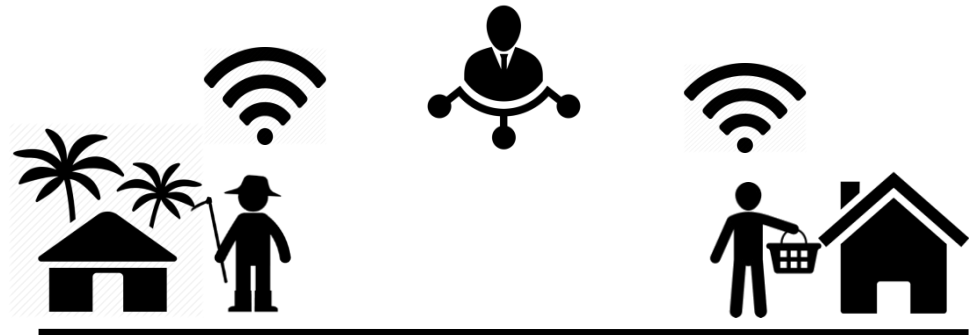
Return to farmers



Product stock for sale to big market



Private manage for payment invoice and receipt



Geographically



Socially



Economically



Environmentally



Health & Safety



6. Co-investment & Co-production

Organic



Geographically



Socially



Economically



Environmentally



Health & Safety



Key Success Factors in Each Market



1. Local Weekly Market



Economy of Scope



Location



Organic

2. Local Green Market



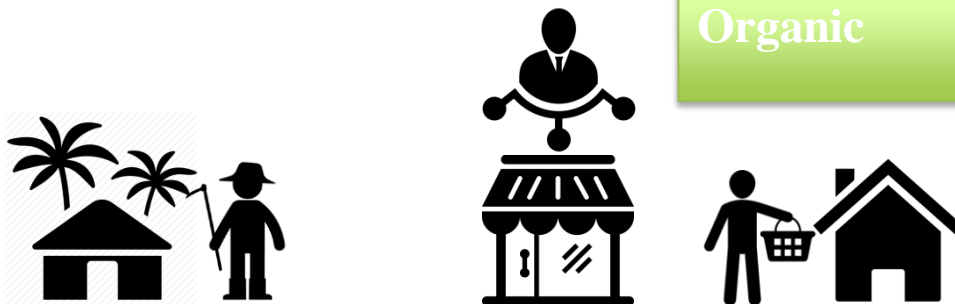
Economy of Scope



Location



Style



Organic

3. Green Shops



Economy of Scope



Location



Style



Economy of Scale

Key Success Factors in Each Market

4. Agro & Eco - Tourism



Style

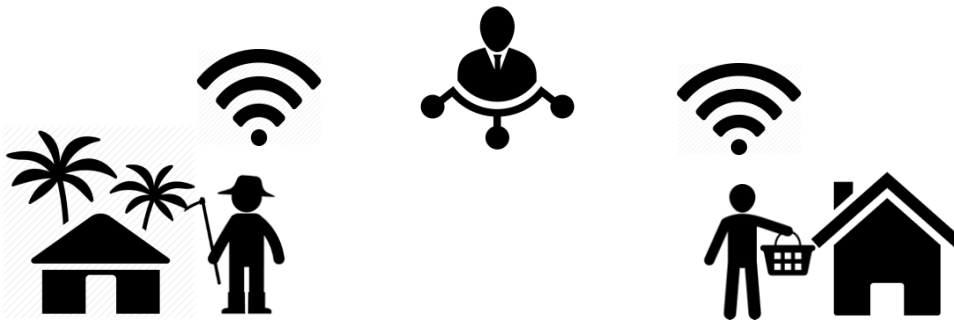


Innovation



Economy of Scope

5. Social Media Marketing



Style



Innovation



Economy of Scope

Organic

6. Co-investment & Co-production



Style

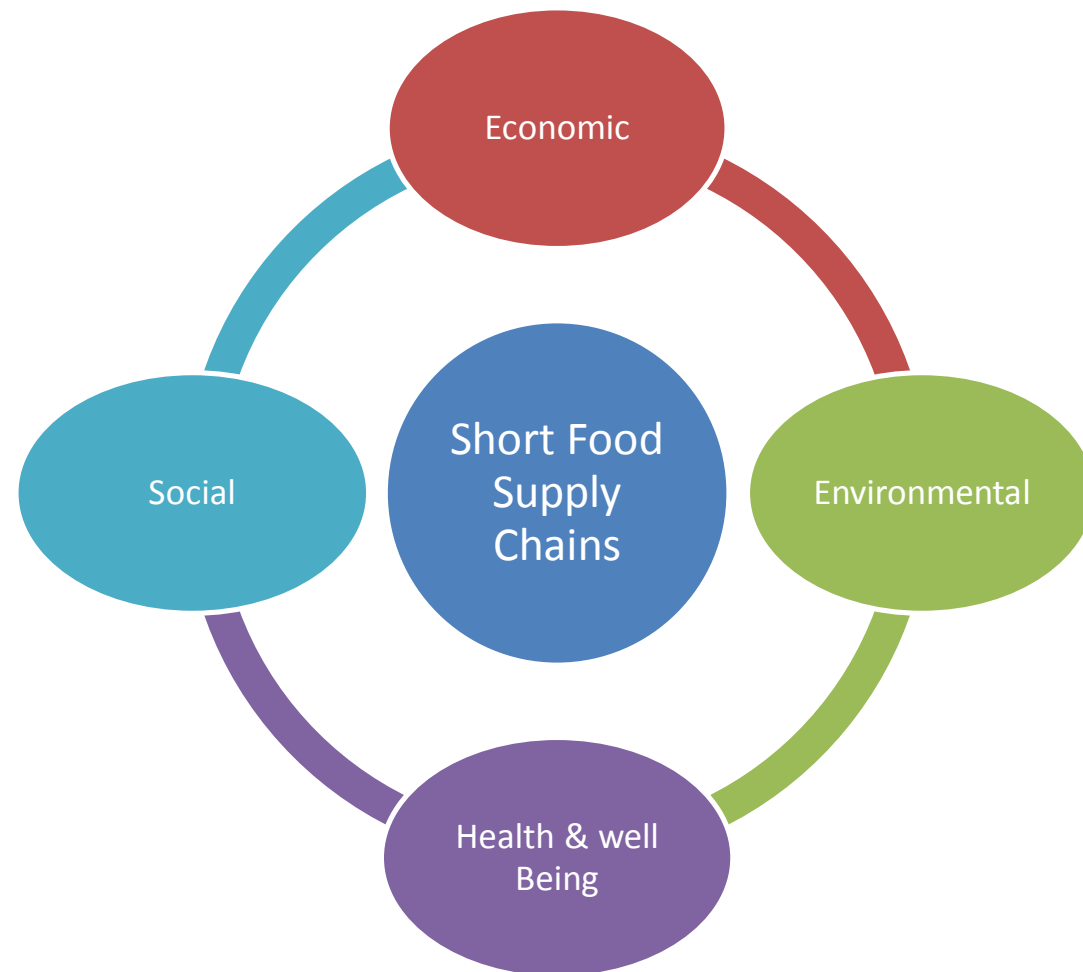


Innovation



Economy of Scale

Short Food Supply Chains as drivers of sustainable development



Examples of how SFSCs have increased sustainability:

Environmental: Many SFSCs have minimised the use of fossil fuel or packaging, and/or use less polluting methods of production.

Health & wellbeing: Some SFSCs have increased knowledge and concern about food amongst consumers and led to the adoption of healthier diets.

Social: The direct relationship between producer and consumer has ensured fairness and trust in many SFSCs .

Economic: SFSCs to which consumers are committed long-term have reduced economic uncertainties that result from varying production and sales volumes.

SFSCs and Sustainability

1. Environmental sustainability

- i. SFSCs are not by definition more environmentally friendly than conventional, longer supply chains.
- ii. However, SFSCs do present advantages in environmental sustainability in some cases, for instance when the use of fossil fuel or packaging is minimised, or when there is the adoption of pesticides free / less intensive methods of production.
- iii. The close physical proximity between producer and consumer within SFSCs means that the distance over which products are transported is often shorter, but this is not necessarily always the case. (Edwards-Jones, 2010; King et al, 2010; Mariola, 2008; Oglethorpe, 2009; O'Hara, 2011).
- iv. According to Gustavson et al (2011) food losses in Europe and North America amount up to about 280 to 300 kg per year. and person. About 2/3 of these occur in production and retail due to quality standardisation. These can be reduced substantially in SFSCs.
- v. SFSC initiatives often rely on the attachment to nature and seasonal processes in agriculture, and they favour environmentally friendly practices (Lamine, 2005).

Contd...

2. Social sustainability and ethics

- i. Social sustainability of SFSCs refers to their capacity to contribute to the equity or fairness among food chain actors, food security and the viability of local communities.
- ii. The direct, single relationships between producers and consumers in SFSCs makes it easier to establish fairness.
- iii. Fairness involves not only fair price but also ethical recognition and appreciation of farmers' work – direct interaction and feedback from consumers increases farmers' belief that their work is necessary.
- iv. SFSCs provide space for community member interactions thus strengthening their social capital in terms of networks, inclusion, knowledge and social cohesion.
- v. Fairer power relations are established in SFSCs: from passive or subordinated food chain actors producers and consumers become active and equal owners and governors who establish rules, organise and control these food chains.

Contd...

3. Economic sustainability

- i. Economic sustainability of SFSCs addresses such issues as competitiveness and economic viability of food chains and their actors, efficient use of and contribution to resources (including human ones), contributions to communities in terms of creation of jobs and income.
- ii. Providing a fair access to the market, SFSCs represent a solution to increase economic viability of small and medium farms and processing companies.
- iii. SFSCs are often developed as collective economic initiatives in response to aggravating disadvantageous market conditions, and therefore they “shorten” and strengthen links among local entrepreneurs and mobilize local resources in a synergetic manner (Schermer et al, 2006).
- iv. As there are fewer intermediaries in SFSCs, many of them, especially direct ones, provide producers with relatively high degree of independence in production and marketing decisions, lower overhead costs, and premium prices when compared to conventional retail and wholesale channels (Ruiz et al, 2010; Wittman et al, 2012).
- v. Certain types of SFSCs (e.g. box schemes) in which consumers are engaged on the basis of long-term commitment reduce economic uncertainties related to variations in production and sales volumes.

SFSCs and Sustainability: Summary

- **Environmentally**

- Reducing food miles
- Lower carbon footprints
- Lower wastes

- **Economically**

- Increasing farmers' share
- Lower transaction costs and transportation costs
- Better product development and diversification
- Market information access

- **Socially**

- Better farmer organizations
- Cultural Identity
- Better Social recognition
- Brands
- Issues
- Identity

Food for thought': Key points moving forward

1. Food sovereignty

- i. "Right of peoples, communities, and countries to define their own agricultural, labour, fishing, food and land policies... It includes the true right to food". Provides a way out of the contemporary 'food crisis' (Rosset 2008)
- ii. Current agri-food scholarship is increasingly interested in 'going beyond' 'alternative' debates toward more reflexive perspectives that address issues of food system governance, community participation, social entrepreneurship and grassroots innovations.

2. Knowledge gaps and challenges

- i. A need for theory development as well as reporting the empirical evidence on SFSCs.
- ii. Most evidences of SFSC studies in literature are from the European region, therefore, extending the studies to other developing countries would enhance our understanding.
- iii. In addition, there is a need for the development of a standard definition of SFSCs.

Funding Opportunity

1. <https://www.britac.ac.uk/newton-mobility-grants>
2. <https://www.britishcouncil.or.th/en/programmes/education/our-work-support-higher-education-and-research-sector/NewtonFund>

