The roles of Short Food Supply Chains (Methods to increase sustainability in agriculture)

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If you eat, wear clothes, and drive, you depend on agriculture every day!

MAIN TOPICS

- Some basic concepts
- Why Short Food Supply Chains ?
- Short food supply chains (SFSC) Concept
- Public policies in favor of SFSC
- An overview of the diversity of initiatives
- Good practices in France and Hungary

Concepts: What is local? What is regional?

- What did you eat this morning?
- ► Was it healthy?
- What of these foods can be produced locally?



PETER MENZEL- HUNGRY PLANET



Concepts: What is local? What is regional?



Concepts: What is local? What is regional?

There is no technical definition.

- Commonly, "local food" refers to food produced near the consumer (*i.e.*, food grown or raised within 50 - 100 miles of a consumer).
- Geographic proximity as well as a more direct relationship
- There is no universally accepted definition for what "local" or "regional" means, consumers are left to decide what local and regional food means to them.



What is local? What is regional?

- The ability to eat "locally" also varies depending on the production capacity of the region in question:
 - people living in areas that are agriculturally productive year-round may have an easier time sourcing food that is grown or raised 100 miles (or even 50 miles) from their homes
 - than those in arid or colder regions, whose residents may define "local food" in a more regional context.
- Why are local/regional food systems important?
 - supporting local/regional food systems helps support local, sustainably run farms,
 - can help protect our health and the health of our communities,
 - and helps stimulate local economies.

Is local food the same as sustainable food?

Not necessarily. Many people now equate the terms "local food" and "sustainable food," using local as a synonym for characteristics such as fresh, healthful, and produced in an environmentally and socially responsible manner.

Attributes of food in SFSCs

Local, regional, locality

Cultural identity, heritage, quality, traditional

Fresh, slow, taste, organic

Fair, diverse, nutritious

Sustainable

Is local food the same as sustainable food?

- "local" means only that a food was produced relatively close to where it's sold
- the term doesn't provide any indication of food qualities
- can't be used as a reliable indicator of sustainability. For instance, while meat from a factory farm could be accurately marketed to a nearby community as "local," the meat would certainly not be considered sustainable.



"greenwash" (or "localwash")

- Unfortunately, in order to capitalize on increased consumer demand for local food, less scrupulous producers have begun to use the term to "greenwash" (or "localwash") their products.
- By taking advantage of the *ambiguity* regarding the term's definition, these producers can mislead consumers by using the local label to imply that their foods are grown closer and/or more sustainably than they actually are.



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Is local food the same as sustainable food?

- Of course, it's important to note that food marketed as "local" isn't always industrial food in disguise;
- Indeed, plenty of local food is produced according to the highest sustainability standards. Since local is not defined or regulated, consumers
- Should always be prepared to find more information about production practices in order to determine whether a local food is sustainable.



Which is easier to reduce?

Beef & Dairy vital CO₂ emission CO₂ emission of raw milk transport and dairy product distribution





86% of milk is water!

The conventional food supply chain



The Global Industrial Food System

- The mainstream food production-distribution network starts on large, industrial farms,
 - > Mono-cropping (in the case of fruits and vegetables)
 - > Factory farming (in the case of animal products) is often the norm.
- Farm products may be transported to a centralized facility for further packaging, processing, and/or inspection,
- Then transported nationally or internationally to finally reach their destination
 usually a conventional grocery store or retail establishment.



The Global Industrial Food System

- As farms have consolidated over the past 50 years, so has the food processing industry.
- This consolidation means food is transported over vastly greater distances, and the production and processing of our food is in the hands of only a small number of corporations.
- This has implications for food safety, food security, and the loss of small processing establishments (e.g., slaughterhouses and canneries).



The conventional food system

- The conventional food system heavily relies upon centralized processing and packaging facilities that are often located far from th grower and the consumer.
- The ways in which food reaches the consun vary widely between local food systems and the conventional global industrial food system.
- The development of refrigerated trucking, combination with subsidized fuel costs and changes to methods of harvesting and transporting food, enable conventional footo be shipped over very long distances at fairly low cost to producers.



Food Distribution: the Way Local Food Reaches the Consumer

Local food systems value a shorter distribution distance between grower/producer and consumer.

Local food systems often limit the number of intermediaries involved in processing, packaging, transporting, and selling food.



Sustainable/Local Food Distribution

- Local food production-distribution networks often start on smaller, sustainable family farms.
- Farm products are transported over shorter geographic distances, generally processed either on the farm itself, or with smaller processors.
- Sustainable/local food distribution networks rely on two primary markets: the direct-to-consumer market and the direct-to-retail, foodservice, and institution market.



The Direct-to-Consumer Market

- The direct-to-consumer market is currently the most established sector of local food distribution.
- Direct-to-consumer means that all intermediaries are cut out of the food distribution system:
- Farmers sell their products directly to consumers, rather than through third parties, such as grocery stores.



Common direct-to-consumer operations include:

- **Farmers' Markets**
- Community Supported Agriculture
- Other Direct to Consumer Programs



Common **direct-to-consumer** operations include:

Farmers' Markets

- Are communal spaces in which multiple farmers gather to sell their farm products directly to consumers.
- May be municipally or privately managed and may be seasonal or year-round.
- Farmers may have to pay a vendor's (or other similar) fee to participate, and must usually transport their own farm products to the site.
- The United States Department of Agriculture (USDA) reports that the number of farmers' markets in the US increased from 1,755 in 1994 to 7,175 in 2011.



Common **direct-to-consumer** operations include:

Community Supported Agriculture (CSAs)

- Are direct-to-consumer programs in which consumers buy a "share" of a local farm's projected harvest.
- Consumers are often required to pay for their share of the harvest upfront; this arrangement distributes the risks and rewards of farming amongst both consumers and the farmer.
- CSA participants often pick up their CSA shares in a communal location, or the shares may be delivered directly to customers.
- The USDA estimates that there may be as many as 2,500 CSAs currently operating in the US.



Other Direct to Consumer Programs

A much smaller proportion of the direct-to-consumer market are:

- pick-your-own farms,
- on-site farm stands and stores,
- gleaning programs, in which consumers are invited to harvest crops that are left in fields, usually after harvest (to reduce food waste).





The Direct to Retail, Foodservice, and Institution Market

- A growing component of local food systems are programs that provide farm products directly to retail, foodservice, and institutions.
- These types of programs cut out the (usually corporate) intermediaries involved in storing, processing, and/or transporting food destined for retail stores, restaurants, schools, hospitals, and other institutions.

Direct to retail, foodservice, and institution programs may involve farmers delivering farm products directly to these establishments, or may rely upon a "food hub," which is a centralized location where many farmers drop off their farm products for distribution amongst multiple establishments.

Sustainability

- Industrial farming negatively impacts the environment in a myriad ways (e.g., by polluting the air, surface water, and groundwater, overconsuming fossil fuel and water resources, degrading soil quality, inducing erosion, and accelerating the loss of biodiversity.
- Local food systems rely upon a network of small, usually sustainably run, family farms.



Sustainability

- Industrial agriculture also adversely affects the health of farm workers, degrades the socioeconomic fabric of surrounding communities, and impairs the health and quality of life of community residents.
- In addition, although the concept of "food miles" (i.e., the number of miles a food item travels from farm to consumer) has been criticized as an unreliable indicator of the environmental impact of industrially produced food, it should be noted that conventional food is estimated to typically travel between 1,500 and 3,000 miles to reach the consumer and usually requires additional packaging and refrigeration.
 - Many small-scale, local farms attempt to ameliorate the environmental damage done via industrial farming by focusing on sustainable practices, such as **minimized pesticide use**, **no-till** agriculture and **composting**, minimized transport to consumers, **and** minimal to no packaging for their farm products.

Sustainable food supply: less products of animal origin



Туре	Total calorie	Animal origin calorie	%
Western	3500	1400	40
Mediterranean	3400	900	26
Poor	2000	80	4
essary land			
500 m2	FAO		
700 m2			
4000 m2			
7000 m2			V V

Type of diet	Necessary land
Vegetarian	500 m2
Dominant vegetarian	700 m2
Western	4000 m2
Riche in meat	7000 m2

Food Safety and Health

- As production networks in the conventional food system have become increasingly consolidated, and as distribution networks have become increasingly globalized, the risk of food safety problems, such as foodborne diseases, has also increased.
- The consolidation of meat production, including animal slaughter and processing, means that there are more possibilities of improper processing, handling, or preparation affecting vast quantities of food (and subsequently consumers).
- Recent outbreaks have been traced to individual farms, food processing facilities, and even individual food handlers.



Food Safety and Health

- When a small amount of contamination (e.g., bacteria) enters these consolidated production systems, vast quantities of the food product being processed and distributed nationally (or globally) may be affected due to the sheer volume of food being produced.
- This risk is heightened by weak food safety standards, inadequate food safety inspection procedures, and in the case of meat production, the trend toward increasingly rapid line speeds at industrial processing facilities.
- Tracing outbreaks of foodborne illnesses also becomes more difficult because the production and distribution of conventional food products, such as ground beef, often involves multiple farms, food processors, and food distributors.

Food Safety and Health

Foodborne Illnesses in the US and World



In the United States, **1 in 6** Americans contract a foodborne illness each year.



That's **48 million** annually. Resulting in...



600M around the globe contract a foodborne illness each year.420,000 cases end in death.



Children under 5 are only 9% of the world population, but 30% of foodborne illness deaths. They bear 3x their share of the burden.

Source: World Health Organization, Foodborne Disease Burden Epidemiology Reference Group

Health and nutrition

- In addition, higher yielding plant varieties suitable for industrial production and international travel have come at the expense of nutrition.
- The global industrial food system relies on crops that have been bred primarily for higher yield and ease of transport,
- While farmers involved in local food systems often place a higher value on plant varietals that are more nutritious by virtue of their variety (*i.e.*, not bred for yield alone) or by their method of production.



Food is fuel. It is not my friend. I do not intend to dig my grave with my teeth!





"We are digging our graves with our teeth"



Local, sustainably produced food

- Local, sustainably produced farm fruits and vegetables are often fresher, as they do not require long distances for transport, and thus can be harvested closer to peak ripeness.
- Many fruits and vegetables contain more nutrients when allowed to ripen naturally on the parent plant.



Local, sustainably produced food

- Meat from animals raised sustainably on pasture is also more nutritious - for example, grass-fed beef is higher in "good" cholesterol (and lower in "bad"), higher in vitamins A and E, lower in fat, and contains more antioxidants than factory farmed beef.
- Sustainably produced food also means less (or no) agricultural chemicals (such as pesticides), antibiotics, and hormones, all of which are common in conventional farm products



Source: Food and Agriculture Organization of the United Nations, ESA Working Paper No. 12-03, p. 131

Food Security

- The Food and Agriculture Organization of the United Nations says that "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life."
- Local food systems may help improve food security by making local, fresh food available to populations with limited access to healthy food; this is especially salient as more farmers' markets accept food stamps (or the equivalent).



Support Local Economies and Protect Local Farms and Farmland

- Evidence indicates that local food systems support local economies; for example, positively affect the business surrounding them, while also providing significant sources of income for local farmers, thus maintaining the viability of many small, local farms.
- Unlike large industrial farms, small family farms are more likely to spend their dollars in the community on farm-related inputs (e.g., machinery, seeds, farm supplies, etc.);
- In addition, food grown locally, processed locally, and distributed locally (for example, to local restaurants) generates jobs and subsequently helps stimulate local economies

Barriers to the Creation of Local and Regional Food Systems

- Although local and regional food systems are growing, there are a number of barriers to their creation and expansion. As a result of the consolidation of food processing, small, local farms may have difficulty finding a local slaughterhouse for their pastured animals or a local food processor (*e.g.*, canner, bottler, commercial kitchen, etc.) for added-value farm products.
- As large corporate entities begin to capitalize on the "local" moniker, small farmers may have difficulty competing with large-scale producers with largescale marketing apparatuses.
- Finally, farmers may have logistical problems finding reliable and convenient transport for their farm products, especially during the growing season.
- However, there is an emerging network of small-scale, local (and even mobile) slaughterhouses, a growing trend of farms processing their own added-value products (e.g., jams, pickles, etc.), and the creation of food hubs to solve the dual challenges of transportation and marketing for small family farms.

Food Hubs: Expanding Local and Regional Food Systems

- As the demand for local, fresh produce and animal products continues to grow, innovative programs to help small farmers bring their farm products to market are also expanding. One increasingly common solution to the logistical, transportation, and marketing challenges faced by small family farmers is the creation of local and regional "food hubs."
- The USDA describes a food hub as the "drop off point for multiple farmers and a pick up point for distribution firms and customers that want to buy source-verified local and regional food."

- Some food hubs also provide transportation of farm products directly to consumers and retail, restaurant, and institutional customers.
- Food hubs take much of the burden of marketing and transportation from local farmers by finding viable consumers, and provide other business-related services, such as logistical coordination. In addition, they often provide refrigerated storage facilities and auxiliary services such as commercial kitchens and light food processing.
- Food hubs can expand the market reach of small, local farmers, help create local jobs, and can expand access to fresh, local food in urban and suburban markets.

WHY SHORT SUPPLY CHAINS???

FEW REASONS:

To meet new demands of citizens for :

- High quality (health, taste, environment), traceability and better price
- **For a better value of the food products**
 - Fewer interfaces/intermediaries
- **For a safer environment**
- To boost local economy/agriculture

SHORT SUPPLY CHAINS

Short distribution : 0 to 1 interface

Direct selling (0 interface) :

markets, farm sale, baskets,...

Proximity channels (1 interface) :

Selling points, distribution platform, supermarket...

Short distribution in France : around 16 % of the farms

SHORT FOOD SUPPLY CHAINS DEFINITION

- The concept of short food supply chain is centered on the relational dimension of the exchanges between producers and consumers and the reduction of the number of intermediaries between them (1 intermediate max)
- Today it is challenged by a new apprehension of this mode of marketing which makes the reduction of the geographical distance between them the main stakes
- The notion of proximity food chains or local food chains tends to impose itself in the professional and research area

THE CONCEPT OF PROXIMITY FOOD CHAINS

- Today, the reinforcement of the local or territorial organization of the agricultural activities widens the actions carried out to new intermediaries. Therefore, the farmers are no longer the only actors to be mobilized within the framework of the projects
- The efforts of local authorities focus on the creation of collective initiatives: form list of producers in direct sales to more structured approaches to collective shops or Navesdrives(2016)

TYPOLOGIE OF SHORT FOOD SUPPLY CHAINS AFTER POUZENC





D'après la typologie CROC, UMR Innovation, INRA Montpellier, 2007

THE EMERGENCE OF PUBLIC POLICIES EU AND Most MEMBER STATES PUBLIC POLICIES IN FAVOR OF SHORT FOOD SUPPLY CHAINS

Since the beginning of the 2000s
 SFSC to respond to new challenges associated with agriculture and food by public authorities:

Renew the social link between producers and consumers

Guarantee a quality diet for all

Contribute to local / rural development

Transparance in the feed value chain

POLICIES AT EUROPEAN LEVEL

- PAC 1992 and 1999
- Introduction of the concept of Multi-functionality of Agriculture
- Taking into account the Environmental dimension
- Reforms 2003 and 2013
- Regional development and territorial cohesion
- FEADER, Local action groups

THE CONTRIBUTION OF EU AGRICULTURE TODAY



FRENCH EXAMPLES

- 1999 : Agenda 21 setting sustainable goals
- 2007 : Grenelle de l'Environnement and State Commitments on the role of organic products provisioning (reach the level of 20% in 2012)
- 2009 : Le plan Barnier the state propose an "official" definition on de Short Supply Chains
- Different actors involved in this process (ex. Direction Régionale de l'Agriculture et de la Forêt)
- 2016 : 2 amendments on the law of the "Egalité et Citoyenneté"

► Goals to <u>2020</u>:

- 40% of products under quality identified sign or under valuable mentions, coming from short supply chains or answer to sustainable development criteria, mainly related to the seasonality
- > 20 % of organic products or under organic conversion

DIVERSITY OF SFSC

- In Europe in 2007 (Eurostat), significant differences between Member States in the growth of direct sales: on average 15% of farms sell more than 50% of their production directly to consumers, 25% in Greece and 0.1% in SPAIN
- IN FRANCE 2010

107 000 farmers, **21% of farms in short supply chain** Large regional disparities: 2/3 of operators in Corsica, 1/3 in PACA Farms are **smaller than average, with a high need for labor**

- Concerns all sectors: in the first place honey and vegetables (50% of the farms involved), then fruits and wine (25% of farms), finally animal products (10%)
- 10% of farms marketing in short circuit are converted to organic (against 2% in long circuit). A large part has adopted practices close to organic
- 6 to 7% of food purchases in France are made by short circuits



Origin : Teikei au Japon

Association pour le Maintien d'une Agriculture Paysanne

Evolved or no in the network MIRAMAP

AMAP – FOOD BASKETS (COMMUNITY SUPPORTED AGRICULTURE)

TERRE D'ENVIES

« PRODUITS DE NOS FERMES, VENDUS PAR NOUS-MÊMES

Network whose goal is to federate, promote and defend the concept of selling point

34 points of sales in a collected stores of producers





LES PANIERS BIO - du VAL de LOIRE Unique Basket 269 deposit points Basket Composition following the season





Make your choices



Magosvölgy Ecological Farm-Terény http:www.MagosVolgy.hu



Young farmer for supply customers in Budapest every week with BIO products (baskets-7500 HUF and 5000 HUF. Three distribution places. http://www.magosvolgy.hu





Planning of weakly supplies, 150 families by Zoltá Dezsény



Well cultivated fields





A voluntaries learning in the farm





Well diversified products planning



Founded in 2014, TERÉNY, Hungary





The frequency of purchases directly from the farmer by product groups



(value=%) (scales of measure=nominal), attributes: no, occasional, regular purchases, N=1015)

Source: Research by Éva Csíkné Mácsai, 2011. Hungary

Frequency in direct sales purchase forms



(value=%) (scales of measure=nominal, attributes=regular (monthly at least), occasional, no purchase, N=1015) Source: Research by Éva Csíkné Mácsai, 2011. Hungary

EUROPEAN PRACTICES PHOTOS and explanation will see on the workshops

CONCLUSIONS

- It is an old movement in renewal : Who gets the biggest share of the added value in the food chain ? It seems that the supermarkets power increase a lot during the years
- Shaped by a large number and variety of initiatives (Market opportunities)
- Shift from the concept of short circuits to that of proximity circuits
- A regulatory framework still in development => to support the territorial anchoring of food

Re-problematization of issues => increasing involvement of local authorities, individual and more and more collective action, insertion of new actors

Ancient "logistic" and Me too!!!!!



Questions:

- How different concepts such as Short Food Supply Chains, Slow Food or Direct Sales relate to local food systems?
- How can short food supply chains increase sustainability in all its dimensions?
- Explain the advantages and disadvantages of direct sales.
- Briefly explain the connection between rural development and direct sales.
- What are the main motivations of consumers taking part in short supply systems?

Thank you for your attention

BE SPECIFIC NOT GENERAL