This anthology is one of the major outcomes of the collaboration of project partners within the framework of REGFOOD project. The anthology covers history, current state and future trends in local and regional food production in the South Baltic regions of Lithuania, Denmark, Sweden and Germany. More specifically, it elaborates on the concept of local and regional food, its underlying social and economic benefits for consumers and producers, and present some real cases.

Overall, the anthology builds on lessons learned from the capacity building workshops and research conducted by project partners throughout the project life-time.
Interdisciplinary perspectives on local and regional food in the South Baltic Region

Edited by:
Anton Petrenko
Bitte Müller-Hansen
About cover pictures: Gunnarshögs gård

Graphic design and cover: Mejra Ferhatbegovic, Kristianstad University
Photographers: Hans Jonsson and Gunnar Nydrén
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Contributors

Sarah Østergaard Brandt worked as an external lecturer in Nutrition and Health at University College Zealand. Her background is MSc in Gastronomy and Health from University of Copenhagen and BSc in Sports Science and Health from University of Southern Denmark. Her interests lie with sensory science and food quality.

Philipp Brinkmann worked for Münster University of Applied Sciences/Germany and Justus Liebig University Gießen/Germany. He has a diploma-degree in “nutritional science and home economics” as well as a master-degree in “public health”. His interest lies on sustainability and public health nutrition.

Indre Butiene is a lecturer of “Environment and health” and “Applied nutrition” at Health Sciences faculty, Klaipeda University, Lithuania. She has a background in biomedical sciences (PhD and MD in General Paediatrics and Paediatric Pulmonology-allergology). Her theses has been on prevalence and risk factors for food allergy and research interest is environmental impact on health, especially air pollution, climate change and nutrition.
Dr. Andreas Dietrich is a Professor and Holder of the Chair of Business, Economics and Entrepreneurship Education at the University of Rostock, Germany. He is interested in teaching and learning arrangements as well as the professionalization of teachers and trainers in vocational education and training.

Andreas Håkansson is a lecturer in Food and Meal science at Kristianstad University, Sweden. He has a background in Food Engineering (PhD and MSc in Engineering from Lund University) and Economics (BSc in Economics from Lund University). His research interests include economical perspectives on consumer critique in the food sector and mechanistic investigations of large scale food processing equipment. His interest in local and regional food primarily stems from the relation to the critique of industrial food production.

Bitte Müller-Hansen is Program Director of the Bachelor program in Food and Meal Science at Kristianstad University, Sweden. She has a background as a consultant in Food Safety and Environmental Safety with MSc in Quality Management and Leadership and BA in Work Science. Her theses has been on the subject of small scale companies and especially women as entrepreneurs.
Birthe Kofoed Mortensen works as an lecturer in Nutrition and Health at University College Zealand. My background is Food Science from University of Copenhagen, KU Science. My interests are food quality including sensory science and nutrition.

Viktoria Olsson is a lecturer in Food and Meal science at Kristianstad University, Sweden. Viktoria is a food scientist, trained at the Swedish University of Agricultural Sciences (AgrD and MSc in Food Science). Her scientific interest is directed towards food quality and its role in sustainable meal experiences throughout life.

Anton Petrenko is REGFOOD project manager at University College Zealand and Lector in International Relations and Comparative Politics at University of Copenhagen, Roskilde University and Danish Institute for Studies Abroad. He has a Ph.D. in Political Science from University of Copenhagen and Northwestern University (2014), M.A. in Comparative Public Policy from Bowling Green State University and (1996), M.A. in European Studies from Central European University (1994). His interests lie with comparative public policy of industrialized countries and regional development.
Britta Will is a Lecturer and Research Fellow at the Chair of Business, Economics and Entrepreneurship Education at the University of Rostock, Germany. She studied International Vocational Education (M. Sc. – 2013) and Business Education (Diploma – 2009). She is interested in aspects of internationalization and mobility in Vocational Education and Training.

Björn Ylipää is a part time Bsc Lecturer in Food and Meal science at Kristianstad University, Sweden. He has a background as an entrepreneur for over thirty years in the food and meal. After studies at the Culinary Arts and meal Science at the University of Örebro he started the company Måltidsvision that Works with Storytelling by food and is now the creative director at the company.
Introduction

Anton Petrenko

What is local and regional food and why is it important for the South Baltic?
Processes of globalization have long been spurring the diffusion of “bulk” or large-scale production in the food sector of industrialized countries at the expense of local and regional food (Smil et al. 2001; Paarlberg, 2013). However, there has since recently arisen a renewed interest among customers, producers and authorities in local and regional food that is environmentally and economically sustainable (Fromartz, 2006; McWilliams, 2009; Ronald & Adamchak 2008). This development presents an opportunity for the South Baltic region to promote local and regional food production and marketing and, thereby, contribute to its economic development and competitiveness. The new business opportunity for South Baltic region may be realized if core features of the South Baltic regional food are clearly articulated by re-coupling South Baltic regional and local food products with their unique regional and local identities (i.e. climate, geography, history and local craftsmanship). At the same time, the South Baltic regional food sector still needs educated and skilled workforce trained in regional and local food.

This anthology seeks to relate to these opportunities and needs by focusing on the question of what South Baltic local and regional food is and why and how it can be promoted. Its major premise is that education in local and regional food is becoming more and more relevant in the light of new job and business opportunities within the food sector in the South Baltic. In the following, this chapter briefly reviews definitions of local and regional food, describes its core actors, processes and practices, and highlights its social benefits and current limitations. It provides also a background for this anthology by presenting REGFOOD project, its objectives, main achievements and lessons learned.

There is no legal or universally accepted definition of “local and regional food” (Counihan, 2007). This term is derivative from the concept of “food system”. Food systems comprise all aspects of food production: the way the food is grown or raised; the way the food is harvested or slaughtered; and the way the food is processed, packaged, or otherwise prepared for consumer purchase and food distribution, i.e. where and how the food is sold to consumers and how the food is transported (Halweil 2002; Wilk 2006; Martinez et al. 2010). Food systems can be divided into several major types: the global industrial food system, cross-national food system, tied by common system of regulations (e.g. the EU), national and local or regional food systems, of which there are many. The main difference among these food systems concerns both the scope of their geographic reach and the method of food production, processing and distribution (Broadway & Stull, 2010).
below presents the typology of food systems emphasizing the scope of their geographic reach and embeddedness of local food system in larger food systems. Figure 1. Types of food systems

![Diagram of food system types]

In addition to the geographic aspect, the term “local food system” or “regional food system” describes a method of food production and distribution: Food is grown (or raised) and harvested close to consumers’ homes, then distributed over much shorter distances than is common in the conventional global industrial food system. In general, “local/regional food systems” are associated with sustainable agriculture, while the global industrial food system is reliant upon industrial agriculture. Based on definitions of “local food systems”, it is possible to identify the following dimensions of the concept of “local/regional food”:

- **Geography:** There is a geographic proximity of food producer and consumer that is typically refers to 100-400 km.
- **Supply chain characteristics:** There is a direct (or mediated by just one or few intermediaries) contact between the local producer and local consumer of food. There are used “direct-to-consumer” and “direct-to-food service” supply methods.
- **Ethics:** There is a normative demand that food production and consumption should be environmentally sustainable and socially responsible.

Given this definition, it may be useful to diagram the main actors and main processes involved in local food system. Figure 2 below shows that there are two key actors in that system i.e. local food producer and local food consumer who are related directly or via just one or few intermediaries.
One of the key characteristics of local food system is a relatively short supply chain that links the local food producer and local consumer. It is typically distinguished two major types of supply chain: “direct-to-consumer” and “direct-to-foodservice”. Table 1 below presents a typology of local food chains based on the type of the consumer and the number of intermediaries between the producer and the consumer.

TABLE 1. Typology of supply chains in local food system

<table>
<thead>
<tr>
<th>Type of consumer</th>
<th>Relationship between the producer and consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution (e.g., school, hospital)</td>
<td>“Direct-to-foodservice”</td>
</tr>
<tr>
<td>Private person/s</td>
<td>“Direct-to-consumer”</td>
</tr>
</tbody>
</table>

The direct-to-consumer supply chain is the most established sector of local food distribution in many industrialized countries. Direct-to-consumer means that all middlemen are cut out of the food distribution equation – farmers sell their products directly to consumers, rather than through third parties, such as grocery stores. Another 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) middlemen involved in storing, processing, and/or transporting food destined for grocery (and other retail) stores, restaurants, schools, hospitals, and other institutions.

Evidence indicates that local food systems support local economies by positively affecting the business surrounding them and by providing sources of income for local farmers. In addition, food grown locally, processed locally, and distributed...
locally generates jobs and subsequently helps stimulate local economies. Overall, creating, consolidating and scaling up local/regional food systems helps supporting local, sustainably run farms, protects our health and the health of our communities, and stimulates local economies (McWilliams, 2009; Williamson, 2007). At the same time, there could be a number of barriers to the creation and expansion of local food systems. 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 for added-value farm products. Small farmers may have difficulty competing with large-scale producers with large-scale marketing apparatuses. Finally, farmers may have logistical problems finding reliable and convenient transport for their farm products, especially during the growing season (Feenstra, 2002; Ronald & Adamchak, 2008).

Thus, given numerous well-documented social and economic benefits of local and regional food systems and recognizing that there still exist potent barriers to their expansion, it may be prudent to theorize potential innovative strategies for the consolidation and promotion of local and regional food systems. Leaving aside conventional textbook marketing strategies, one novel social intervention concerns the development of targeted education on local and regional food at professional colleges and universities. This approach seeks to produce a score of specialists in local and regional food production, marketing and distribution that would respond to the emerging demand on the food market for local food professionals. Another intervention could target needs of existing producers of local and regional food and strengthen their organizational and professional capacities for horizontal knowledge sharing. FIGURE 3 below offers a model that integrates potential interventions into an overall framework of local and regional food promotion.

FIGURE 3: Model for promotion of local and regional food

The model of local and regional food promotion not only highlights the logic, key actors and target groups for intervention as well as their expected positive econo-
mic, health and environmental impacts but also specifies pathways for specific programmatic and project intervention. One example of such an intervention is REGFOOD project that is presented in greater detail below.

**REGFOOD project: Achievements and lessons learned**
This anthology on local and regional food in the South Baltic draws on lessons learned from a four-year project intervention, entitled “Increasing Competitiveness of South Baltic Regional Food” (REGFOOD), 2012 – 2015. The REGFOOD project was financed in part by the European Union (EU) within the framework of the South Baltic Programme (see PICTURE 1 for logos and web-addresses of the REGFOOD project and the South Baltic Programme).

REGFOOD project has had a broad geographic scope stretching across the entire South Baltic. The South Baltic comprises a large area encompassing regions from five EU member states, i.e. Poland, Sweden, Germany, Denmark and Lithuania, and the Russian Federation, i.e. Kaliningrad district (See PICTURE 2).
REGFOOD project was an example of a cross-country and cross-disciplinary collaboration among experts from five higher education institutions in the South Baltic region: Kristianstad University, Sweden; University College Zealand, Denmark; Klaipeda University, Lithuania, Rostock University and University of Applied Sciences Münster, Germany (see PICTURE 3).
REGFOOD project partners set for themselves an ambitious long-term objective to promote the economic competitiveness of South Baltic food products locally, regionally and within Europe. They reasoned that in order to achieve that distant objective, (1) they would need, first of all, to improve their own understanding of the concept of local and regional food and of existing challenges and opportunities for the production, marketing and distribution of local and regional food in the South Baltic; then, (2) they would need to transfer that knowledge into educational curricula and programs to increase job competences of students at their home higher education institutions; and, finally, (3) they would have to increase professional and organizational capacities of producers of local and regional food to brand and market their food products in their home food markets. In other words, the model for the promotion of local and regional food systems (see FIGURE 3) has directly informed the design of REGFOOD project and its implementation strategy. The details of that strategy are diagrammed below in FIGURE 4.

FIGURE 4: REGFOOD project implementation strategy

FIGURE 4 above describes how REGFOOD project sought to contribute to enhancing competitiveness of practitioners within the local food system in the South Baltic. The implementation strategy of REGFOOD project consisted of a two-track intervention approach. The first track focused on improving knowledge and skills of students in professional colleges and universities on the operation of local and regional food systems. The second and parallel track comprised activities aiming at facilitating horizontal networking and partnership building among food practitioners. In terms of project beneficiaries, REGFOOD intervention strategy has targeted two groups:

- Group 1: Students, researchers and education instructors in higher education institutions involved in training of specialists in agribusiness, food-processing, cooking, catering and restaurant businesses in Denmark, Germany, Lithuania and Sweden.
- Group 2: Producers, of local and regional food, entrepreneurs and employees in food and tourism sectors in Denmark, Sweden, Lithuania and Germany.
The important dimension of the implementation strategy was to strengthen cross-border and cross-sector liaisons between higher education sector and local food practitioners in the South Baltic. That required building a complex cross-disciplinary and cross-cultural collaboration, first, among project partners, and then, among higher education specialists and local food practitioners, and their professional networks. The challenges to the project partners abounded ranging from that of conducting original field and desk research on the under-researched subject of local food systems in the South Baltic to that of effectively disseminating the findings from their study to students and food practitioners via electronic media, hands-on training and practical internships.

In the face of these formidable challenges and large order objectives, REGFOOD project partners have reaped a harvest of achievements and learned some salient lessons. At the theoretical level, the project partners have elaborated a general and yet contextually rich concept of South Baltic local and regional food. At the educational level, they have designed and pilot-tested a novel cross-disciplinary on-line based course that addressed economic, food science and public health aspects of local and regional food. Finally, at the level of capacity building of food practitioners, they have facilitated partnership building within and among a dozen of food networks across the South Baltic. Each of these three achievements and ensuing lessons learned deserve a more thorough discussion.

The first significant product of REGFOOD project is a concept paper on local and regional food in the South Baltic, entitled “Bringing Local Food to the Table: Enhancing Competitiveness of Producers of Local and Regional Food in the South Baltic Region” (Petrenko, Brinkman & Olsson, 2014). The paper is an outcome of a theoretically driven and empirically based research of local food systems in Sweden, Denmark, Lithuania and Germany. It inquires into external challenges and opportunities as well as internal organizational strengths and weaknesses of local food producers, and suggests strategies that could facilitate competitiveness of producers of local and regional food in the South Baltic. Drawing on recent theoretical research and empirical data from cases of Denmark, Germany, Lithuania, and Sweden, it defined a concept of local and regional food, identified structural constraints and organizational capacity-related weaknesses of local food producers, and advocated for two strategies, i.e. partnership building and capacity-building of local food practitioners in strategic management. It concluded by deriving the first lesson that effective local food promotion should link two intervention strategies: (1) education of future practitioners of local food systems in relevant management techniques and the promotion of partnership building among local food producers, customers, and authorities.

The second major achievement of REGFOOD project is an innovative, cross-disciplinary and on-line assisted educational program on local and regional food, entitled "Interdisciplinary aspects of local and regional food in the South Baltic
The educational program drew on findings from field- and desk-research and was made available in the form of e-learning course. It consists of three thematic course components: (1) “Basic aspects of local and regional food”, (2) "Management and networking", and (3) “Food science and health aspects of local and regional food”. The course syllabus comprises the detailed description of course components' learning objectives, teaching approach, workloads, suggested readings, and student assignments. Project partners pre-tested that generic course on a pilot level and after adopting it to their specific teaching needs and institution-specific educational practices integrated it into their educational programs at home institutions. These experiences with the course design, pilot trial and subsequent revisions have permitted to draw the second lesson: Education of future local food practitioners should adopt an inter-disciplinary approach addressing economics, management, food science, and public health aspects of local food production, marketing and distribution.

The third noteworthy outcome of the REGFOOD project is conceptualization of horizontal networking among local food producers as a chief mechanism for the promotion of local food system. While it is a common knowledge that local food producers often find themselves at disadvantage when they try to compete with large-scale food producers on the food market due to the former's more limited resources and smaller size, it is less evident what strategies may be devised by local food producers to address and overcome these limitations. It is one of the major findings of the REGFOOD project that horizontal networking among local food producers turns out to be such a critical success factor. Project partners conducted original research and found supportive evidence for the proposition that regional and local food networks offer valuable devices to local food producers not only as stock of knowledge about the tricks of the trade (e.g. strategies for marketing of local food products) but also as a mechanism for cost- and risk-sharing (Brinkman et al., 2014). The project partners have incorporated that lesson into their collaborated with dozens of food networks in the South Baltic and it was found that networking builds professional capacity of local food producers by means of the sharing of good practices and lessons learned. One of the challenges for the future is to strengthen organizational and technical capacity of food networks that would enable them to provide services to local food producers.

All in all, REGFOOD project has scored some notable successes, derived some useful practice-oriented lessons but it has nevertheless carried with it some serious limitations and build-in flaws. One significant shortage of the project was a short horizon of intervention. Even though project was eventually prolonged from a two-and-a-half-year project to a four-year project, its life span was not sufficiently long to tackle problems and challenges of the effective promotion of local food systems in the South Baltic. Addressing such challenges effectively requires a more sustained intervention. Another internal deficiency of the project was related to a fluid nature of the project partnerships when some project partners dropped out or altered their
representatives to the cross-national project team due to various contingencies. Significant investment in partnership/team building and its careful maintenance would be required whenever such demanding interventions are implemented in the future. Finally, even though the project has sought to overcome a somewhat natural divide between food practitioners and universities, the project partners may have to take a possible rebuke from food practitioners for not sufficiently integrating them into the project. A more prominent role should have been accorded to food practitioners and their organizations throughout the entire implementation of the intervention. Having applied a healthy measure of self-criticism, it may be appropriate to conclude on a more salutary note: Even if project may not have earned the title of “the best of all possible projects”, being a part of it has been rewarding and learning. This message may shine through in project team below.

Purpose, structure and target groups of the anthology

This anthology is one of the major outcomes of collaboration of REGFOOD project partners who serve as its co-authors. It is a product of project partners’ reflection over their four-year experience with the REGFOOD implementation, and it represents project partners’ effort to systematize their knowledge derived from a theoretically informed empirical study of local food in the South Baltic from different disciplinary and national perspectives. Insofar as it provides a general introduction to the subject of local and regional food in the South Baltic, it may be used both as an educational tool by instructors for teaching of undergraduate courses related to local food systems in professional colleges and universities and as a resource for adult education by local food practitioners.

The anthology is divided in four parts. The first part presents national perspectives on local and regional food from South Baltic regions of Lithuania (by Indre Butiene), Denmark (by Sarah Brandt), Sweden (by Viktoria Olsson) and Germany (by Philipp Brinkmann), where the authors review history, the current state of the play and likely future trends in the development of local and regional food systems in their regions. The second part analyzes social and economic benefits and risks of local and regional food. It addresses the subject from diverse disciplinary angles: Viktoria Olsson and Sarah Brandt appraise safety of local food from food science
perspective, economics’ Andreas Hakansson discusses the psychology of local food consumption by customers from the point of view of economics, and Indre Butiene offers her analysis of public health and environmental value of local food. The third part assembles and critically evaluates good practices and lessons learned in the development of local and regional food systems: Philipp Brinkmann underscores the value of horizontal networking for the economic sustainability of local and regional food producers as business enterprises; Björn Ylipää discusses how storytelling may function as a tool in local and regional food promotion; Britta Willl and Andreas Diettrich inquire into sources, mechanisms and effects of mutual learning among local food producers; and Andreas Hakansson discusses how local and regional food may be produced by means of a large scale industrial processing. The fourth part presents specific empirical case studies of various elements and aspects of local and regional food systems in the South Baltic: Bitte Müller-Hansen shows how horizontal networking operates among local food producers in Skåne region of Sweden; Sarah Brandt examines the case of microbreweries in Denmark; and Britta Will and Andreas Diettrich discuss the scope and nature of local and regional food production in Germany. Anton Petrenko in the conclusion to the anthology draws the threads together, restates the social value of local and regional food, and makes the case of its continuing promotion in the South Baltic.
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Part I: National perspectives on local and regional food from the South Baltic
Chapter 1: History, current state and future trends of local and regional food in Lithuania

Dr. Indre Butiene

This chapter gives an overview on the development of Lithuanian agriculture and local and regional food production from Neolithic period to nowadays.

Geographical conditions, natural resources, and the course of history are the main factors determining the type of national economy in one country or another. These factors gave to Lithuania’s national economy its predominantly agricultural character. Agriculture and its production processing industry are not only an important source of economic prosperity through offering the population high-quality food and energy resources, but also have a significant impact on the Lithuanian countryside, as it is residence of one-third of the country's population. Agriculture and food industry are among Lithuanian key economy sectors. Agriculture in Lithuania benefits from comparatively fertile soil and favorable climate conditions (especially in the regional and the Baltic States’ context).

As elsewhere, the practice of agriculture in Lithuania during the Neolithic period showed limited scope and was constrained and limited by the availability of proper tools. There is evidence that its early practitioners employed slash and burn techniques to clear their fields. The use of domestic animals, first seen during the Bronze Age, widespread during the Iron Age. Wheat cultivation has been dated to the 1st century Bronze Age; the first evidence of widespread cultivation of rye has been dated to the 1st century AD. Barley probably appeared in the 2nd century BC, while there was no potatoes until the late 18th century. These crops remain major contributors to the agricultural sector.

Although Lithuania experienced major famines in 1719-1724, 1850, and 1867–68, the country was usually able to survive itself, and exported much of its agricultural production.

Throughout the whole nineteenth century and during the early years of the twentieth century in several Western and Northern European countries, very great progress toward the improvement of rural life was made, and the medieval village economy was transformed into modern family-based enterprise. Pre-war Lithuania stayed almost untouched by those developments. The Russian Czars at that time were not interested in the economic and social welfare of occupied nations, and they even tried to keep away the penetration of new ideas from the Western World.
When, after the First World War, Lithuania regained its independence, its national economy was in a deplorable state. The country had been devastated by both occupant—Russians and Germans. The remnants of prewar industry were very poor and unsuited to the needs of the new republic; agriculture was underdeveloped. Several shortcomings of that time were due directly to the war and its consequences.

The result of the detrimental policy exercised by the occupants was that in the second decade of the twentieth century, the majority of Lithuania's peasants lived in villages which had tightly-pressed farmsteads, an irrational layout of buildings, and an open-fielded system, primitive crop rotation, and scattered land parcels in numerous narrow strips. A several hundred big landlords in the country owned almost one-quarter of all the farmland. On the other hand, the number of landless agricultural laborers and small landowners was disproportionately high. At that time, in Lithuania, there were no central marketing organizations for agricultural products, almost no processing enterprises, no agricultural research stations, practically no extension work, and no institutions of higher learning.

In the period between the First and Second World Wars Lithuania enjoyed independence and had the opportunity to manage all economic affairs itself, as well as agricultural, as it pleased. The first great problem after the First World War was the establishing of sound land-tenure relationships. It was found that conditions in the country were highly unsatisfactory, and it was decided to act quickly by launching a land reform on a large scale. The role of the agriculture in independent Lithuania has remained relatively significant throughout the entire Interbellum. After the land reform launched in 1922, which provided 65,000 people with agricultural land, the number of landowners has risen significantly. This reform was carried out in two directions: (a) parceling of big estates and creation of peasant farms; and (b) breaking up of former villages by the consolidation of scattered parcels to single-farm tracts.

Land reform created about 40,000 new farms; 26,000 small farms received additional allotments of land. Various cultural, social, and public needs received favorable attention during the execution of land reform, and part of the land was assigned to satisfy those needs. It has basically changed the type of farming in the country with respect to the manufacturing of market products. Instead of selling grains, as was done before, the switch was made to the marketing of the products of animal husbandry (mainly dairy products, eggs, and bacon). This type of farming is best suited to Lithuanian climatic conditions, and because of the necessity of exporting agricultural products in an agrarian country, it was a wise alternative.

Some new crops, e.g., sugar beets, certain vegetables, drug plants, forage grasses, which never had been grown before in the country, were successful introduced. All these changes required several adjustments on the farms and the establishment of corresponding processing enterprises for the agricultural products. More than 200
cooperative dairies, about 2,000 cream-separating stations, 5 big slaughter-houses, 3 sugar refineries, 3 terminal grain elevators, and several other plants were newly built and modernly equipped.

Since 1940 to 1990 Lithuania was occupied by Soviet Union, with the exception of 1941—44 when it was under the German Nazis. Lithuanian agriculture was collectivized during the early years of Soviets; although as a general rule, this system was unproductive, it became relatively efficient in the late 1950s when Moscow granted the communist leadership in Vilnius greater control of agricultural policy. Lithuanian farm workers were 50% more productive than the Soviet average but much less productive than their Western counterparts. As in other Soviet-dominated areas, about one-third of agricultural production came from private plots of land and not from collective or state farms. Nevertheless, Lithuanian agricultural production was high enough to allow the export of about 50% of total output. Lithuania's agriculture, efficient by Soviet standards, was producing a huge surplus that could not be consumed domestically. In 1992, about 48% of the arable land was sown with grain, 41% - forage crops, 5% - potatoes, and 3% - flax and sugar beets. Crops accounted for one-third and livestock for two-thirds of the total value of agricultural output.

Significant reforms were introduced in the early 1990s, just after the Re-Establishment of the State of Lithuania, to re-establish private ownership and management in the agricultural sector. Although Lithuania succeeded in privatizing more agricultural land than Estonia or Latvia, agricultural production decreased by more than 50 percent from 1989 to 1994. One problem was that farms were broken up into smallholdings, averaging 8.8 hectares in size, often not large enough to be economically viable. A serious drought in 1994 further reduced agricultural output and cost farmers an estimated 790 million LTL (about 230 million EUR) in production.

As of 2004, the agricultural sector in Lithuania employed about 227,000 persons; contributed about 6% of its GDP; and occupied about 35,000 km2, of which about 9,000 km2 were abandoned. In 2001 the principal crops were potatoes, barley, wheat, rye, legumes and rapeseed. About 46% of its land area was devoted to crops and pastures.

Lithuania's accession to the European Union in 2004 ushered in a new agricultural era. The country's agricultural development has been driven by the European Union (EU) and national budget support. In 1999, the Seimas (parliament) of Lithuania adopted the Law on Product Safety, and in 2000 adopted the Law on Food. The reform of the agricultural market has been carried out on the basis of these two laws.
In recent years the Lithuanian agriculture sector has undergone rapid structural changes. The increase in average farm size and decreasing number of farms has been one of the main trends. Compared from 2007 to 2011, the average farm size has increased from 11.0 to 13.8 ha. Contingent workers in the agriculture sector, on the basis of the agricultural census and the structure data, fell from 173.6 to 143.4 thousand. In 2011, Lithuania's budget funds for agriculture and direct investment support, intervention, and other market regulatory measures, peaked at 2.59 billion LTL (about 0.75 billion EUR).

Consequently, there have been changes in the structure of agricultural land - decline of grasslands and increasing arable land. Changing food consumption patterns have influenced market share in food production. More consumers are requesting high nutritional value products, natural food and food products supporting health. These changes increased the role of innovations in agriculture in post-industrial development stage. Organizational innovations play the most important role by helping to form new local food market.

Currently agricultural land covers 53% of the country's territory. Its contribution to GDP forms 4%, and 8.8% of employers are working in agriculture. Recently, the contribution of agriculture to gross value added has been decreasing over years, and so do the number of employed in agriculture. But the farming community is ageing: in 2011, 58% of farmers were on average older than 50 years. Nevertheless, agriculture has still a considerable impact on rural development as one third of population is residing in countryside and many of them are working and gaining income from agricultural or related sectors.

Agricultural production now is dominated by small and medium-sized farms (98.7 % of farms in 2014), although their number is decreasing along the concentration trends. There were 199.9 thousand farms registered in 2010; average farm size has reached 13.8 ha. Most of farms (56%) practice mixed livestock-crop farming; 18.4% are dairy farms, and 8.6% are specialized in cereal, oil and leguminous crops. As follow, the main production outputs are cereals (34.8%) and milk (17%). However, livestock farming is decreasing due to the intensive and permanent labour demand, comparatively less income and also disadvantageous EU support to livestock farms. Lithuanian food processing industry provides a major share of the total value added created by the manufacturing industry. Major branches are dairy, meat and cereal processing, but other well-established sectors are brewing, fish processing, canned vegetables, fruits and confectionery. The largest proportion of food and beverage production company’s sales in 2011, was generated from milk, meat and various other products and beverages. Cereal consumption is currently decreasing in Lithuania. During the period of 2007-2011 the yearly domestic consumption decreased by 10.2% year on year. While other produce such as fresh cheese, canned milk, natural mineral waters and aerated waters production saw a production decrease.
Lithuania is self-sufficient in food production. It is among the top 20 countries worldwide regarding the dietary energy supply (the food available for human consumption, expressed in kilocalories per person per day), reaching almost 3507 kcal/cap/day in 2014. The economic crisis of 2008 has influenced food production. For instance, meat and meat product market decreased by approximately 15% and by value by 28% in 2011 in comparison to the pre-crisis period in 2008. However, already in 2012, the increase of food production volume shows the post food production volumes is linked also to growing food export.

Growing demand for food in the world, the need for the rational use of the available natural resources and the much needed preservation for future generations, pressure Lithuania as a country to re-evaluate the role of agriculture and its importance. Through strengthening the agricultural production base and capacity of infrastructure development, the rural population life is gradually improving.

Food system governance seems to be divided between production side (agriculture, food industry and respective policies) and consumption side (food consumption behavior, health, social policies). There are numerous public and private institutions involved in food system governance; but they are unevenly interlinked, especially trans-sectoral cooperation is limited (for instance, there are poor links between farmers and researchers). Agricultural producers take part in a large number of farmers’ NGOs (there are more than 100 of them) and two big umbrella organisations: Lithuanian Association of Agricultural Companies and Farmers Union – Lithuanian Chamber of Agriculture. These organisations represent farmers’ interests in food system and policy making, but both are considered as insufficiently developed to be very effective. Commercial cooperation, like marketing cooperatives, is not widespread among farmers. This means also that the many small and also medium farms have a weak position in the market. Large food industry and retailer companies are dominating the food chain, and farmers and consumers have little ability and authority to influence it.

The current EU and national policy and support for agriculture, directed by the Ministry of Agriculture, are more focused on modernization and intensification of production, with less attention to farm diversification. Policy measures do not motivate farmers and agricultural enterprises to change their production practices in order to better address issues related to climate change mitigation, safe and high quality food or shortening food chains. Researchers estimate that increasing environmental laws and regulations may have a negative impact on farmers' profitability and therefore squeeze the most vulnerable out of the business, contributing to further concentration in agriculture. The State Food and Veterinary Service, is a government institution which develops and implements the state policy regarding food safety and quality as well as animal welfare and health. The Ministry of Social Security and Labour is responsible for social policy, including organisation and delivery of food assistance system for poor people (cash social assistance for poor
residents, free school meals for pupils from low income families...). The Ministry of Health is involved in food system governance as far as it relates public health, like promoting healthy diets and preventing from and curing food-related diseases. Municipalities are involved in organisation and providing public food assistance at local level, both to address food needs of the poor-income families and to facilitate healthy diets. NGOs and citizen groups are involved both in organizing alternative food initiatives (like urban gardening, direct buying etc.) and providing food assistance for the poor (f. i., charity NGOs organising soup kitchens or food collection and distribution).

Lithuanian food companies and farmers have initiated the Lithuanian Food Sector Cluster in 2006 which involves both food enterprises and research institutes. The aim of the cluster is to support agricultural and food sector’s development, improve its competitiveness, and business and science cooperation. There are potential opportunities for rural communities to participate in the food supply chain of Lithuania, such as:

- using a variety of supply channels and tactics, such as direct marketing from the farm shops, farmers’ markets through the Internet and by using developed supply networks;
- a diverse mix of new commercial opportunities;
- selection of shorter transportation distances to the point of sale.

Integrated parties of the local food supply chain are often actively involved, not only in one, but several chains. Farmers are proud of, and show an interest in eco-friendly products which they themselves are often involved in, through the processing and marketing of their grown organic produce. This usually means that farmers can inform customers about the products they buy, as well as offering a familiarization of how the food they buy was produced and the benefits of sustainable food production.

Unfortunately several negative trends are also apparent - emptying villages, abandoned farmland and a rapidly increasing unemployment in low-productivity farmland areas. These recent tendencies highlight the need to re-evaluate agricultural problems, issues and achievements, in order to look for new and alternative competitive advantages in the development sector. Decreasing labor demand in agriculture and emigration of young people has unfortunately not bypassed the countryside. In 2011, 58% farmers and contributing family workers were on average older than 50 years of age.

Consumption. The recent financial and economic crisis brought changes in household food consumption habits – the food expenditure has decreased. However, consumption has started to grow again in last few years. Nevertheless, in 2014 food consumption still remained below the pre-crisis peak level. Eurostat data show that expenditures on food and non-alcoholic beverages form the largest part (23.8%) of
Lithuanian household expenditures, and it is the highest in the EU. Since 1991, food consumption per capita has fallen. Lithuanian diets are becoming healthier, but they still contain too high levels of animal-based food and sugar and insufficient amount of fruit, vegetables and high-fibre products. Unbalanced diets are linked to the increasing prevalence of obesity and lipid disorders. There are variations in consumption habits among various socio-economic groups: women eat healthier than men; educated persons have healthier dies; urban residents eat healthier.

Lithuanian consumers are among the most concerned in the EU about various food-related risks, pesticide residues and quality and freshness of the products being their two most widespread worries. The percentage of the concerned has increased more than in other European countries (from 10% in 2005 to 20% in 2010). In the meantime, individual strategies to reduce food risks are not widespread, at least they are not well reflected in food purchasing behavior. For instance, comparatively few Lithuanians (31%) check calories and nutrients, just one fifth (20.2%) refuse to buy products with preservatives in, and one fifth are looking for healthiness in products. However, a half refuses to purchase GMO containing food. Price remains the major factor in purchasing choices; during the crisis period even more than 80% of consumers stated price as the decisive. Although consumers remain price sensitive, demand for high quality food products is increasing. Food awareness and purchasing power increases especially in the big cities, where organic, healthy, authentic and environmentally friendly products gain their popularity. This trend is reflected also in the product assortment of the major retail chains, which not only expand supply of low price private label products, but also offer organic, gourmet food products branded with private label. Supermarket chains have increasing role in Lithuanian food access and choices as their market shares have been gradually increasing: currently four major retail chains cover about 75% of the market, and this situation could be considered as oligopoly. In the meantime alternative food provision initiatives are emerging. Currently local and regional food producers can distribute their production locally in several ways:

- Sell production in the local market
- Supply production to supermarkets
- Sell production directly to customers, people, and families
- Supply production directly to restaurants/cafes
- Sell production to food processing companies
Lithuanian cuisine features the products suited to the cool and moist northern climate of Lithuania: barley, potatoes, rye, beets, greens, berries, and mushrooms are locally grown, and dairy products are one of its specialties. Since it shares its climate and agricultural practices with Northern Europe, Lithuanian cuisine has much in common with Eastern European (Polish, Ukrainian) and some similarities to Scandinavian cuisine, also Hungarian, Romanian, and Georgian cuisines as well as Ashkenazi cuisine. Nevertheless, it has its own distinguishing features, which were formed by a variety of influences during the country's long and difficult history.

Because of their common heritage, Lithuanians, Poles, and Ashkenazi Jews share many dishes and beverages. Thus there are similar Lithuanian, Lithuanian Jewish, and Polish versions of dumplings (koldūnai, kreplach or pierogi), doughnuts (spurgos or pączki), and pancakes (blynai, crepes (blintzes)). German traditions also influenced Lithuanian cuisine, introducing pork and potato dishes, such as potato pudding (kugelis or kugel) and potato sausages (vėdarai), as well as the baroque tree cake known as Šakotis. The most exotic of all the influences is Eastern cuisine, and the dishes kibinai and čeburekai are popular in Lithuania.

The Soviet Union occupation badly damaged Lithuanian cuisine. As elsewhere in the Soviet Union, however, its people were allowed to maintain their own small garden plots; these were, and are, lovingly tended. After the restoration of independence in 1990, traditional cuisine became one of the ways to celebrate Lithuanian identity.
Future trends of local and regional food in Lithuania

Contemporary food production and consumption cannot be regarded as sustainable and raises problems with its wide scope involving diverse actors. Moreover, in the face of demographic change and a growing global population, sustainability problems arising from food systems will likely become more serious in the future. For example, agricultural production must deal with the impacts of climate change, increasingly challenging land-use conflicts, and rising health and social costs on both individual and societal levels. The unsustainability of current arrangements arises from the industrialization and globalization of agriculture and food processing, the shift of consumption patterns toward more dietary animal protein, the emergence of modern food styles that entail heavily processed products, the growing gap on a global scale between rich and poor, and the paradoxical lack of food security amid an abundance of food. These factors are attributable to national and international policies and regulations, as well as to prevalent business practices and, in particular, consumers’ values and habits. The most effective ways for affluent societies to reduce the environmental impact of their diets are to reduce consumption of meat and dairy products (especially beef), to favor organic fruits and vegetables, and to avoid goods that have been transported by air on both individual and institutional levels (e.g., public procurement, public catering).

- Geographical conditions, natural resources, and the course of history are the main factors determining Lithuania as predominantly agricultural country.
- Agriculture in Lithuania benefits from comparatively fertile soil and favorable climate conditions.
- Since 1940 till 1990 the country was occupied by Soviet Union. The occupants have completely abolished the land-tenure system established by the independent Lithuanian State and collectivized Lithuanian agriculture.
- Significant reforms were introduced in the early 1990s to re-establish private ownership and management in the agricultural sector.
- Lithuania's accession to the European Union in 2004 ushered in a new agricultural era.
- In recent years the Lithuanian agriculture sector has undergone rapid structural changes.
- Growing demand for food in the World, the need for the rational use of the available natural resources and the much needed preservation for future generations, pressure Lithuania as a country to re-evaluate the role of agriculture and its importance.
- Lithuanian consumers are among the most concerned in the EU about various food-related safety risks.
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Chapter 2: local and regional food in Denmark
Sarah Østergaard Brandt

Summary: This chapter will take you through the history of organized local and regional food in Denmark. Over a short period of time the interest for local and regional food has increased remarkably among consumers. Local and regional food producers tend to create collaborations and partnerships. At the current moment there exist more than 20 food networks organized under the umbrella organization Taste of Denmark and more exist unorganized. This chapter will provide you with an overview of the most popular organizations and initiatives, and provide a suggestion of what we can expect of future trends in Denmark.

History
Denmark has an old and strong tradition for agriculture and food production, and today the Danish food cluster is the third largest even though Denmark is a small country of only 4.3 million hectares (Danish Agriculture and Food Council 2014). While the industrial food production has gradually increased over the last fifty years, the local food producers have experienced a decreasing demand. But over the past few decades a different trend has gained ground. The quality of raw materials along with sustainable production is once again in focus and consumer demand for local foods is increasing. However, local food production is still far from the market share it had previously (Sundbo & Olsen 2014).

About 20 years ago the first organized focus on local and regional food in Denmark began. In 1995 on the Island of Bornholm (together with Southeast Skåne of Sweden) the concept for Regional Culinary Heritage was developed and introduced (Culinary-heritage.com 2015). Today the common goal is to develop the European regions through regional food and culinary traditions. Increased use and production of regional food develops small scale business that eventually will affect tourism, environment, employment and health. According to these first members the project where shown a rapidly and considerable interest from businesses and authorities within the region, as well as other parts of Europe. Today the network has 32 regions in 21 countries with full member status (Culinary-heritage.com 2015). Beside the region of Bornholm, the network was expanded in Denmark, but it took over a decade for this regional awareness to spread to the rest of the country. Twelve years after the establishment on Bornholm, the Culinary Heritage network on the region of Zealand was established (in 2007) and two years later it became a full member of the European network (regional-madkultur.dk 2015). The region of Western Jutland became a member in 2011 and latest the region of Thy-Mors joined in 2013 (Madlandet.dk 2015; madkulturthymors.dk 2015). See figure 1 below.
The Reg-food project has had a particular focus on the region of Zealand. Many different types of food are produced in this area and some of the producers have a long history. Søkildegård in Vipperød is a micro brewery that started out in 1833 as a small farmer shop and Skamstup Brødfabrik is a bread factory established in 1913 (Culinary Heritage Zealand 2007). In the area of North West Zealand called Lammefjorden (the area is highlighted in Figure 1 below) the soil conditions provides the farmers with incredible good agricultural land. The vegetables that are grown here are very rich in taste and quality and the carrots and potatoes from Lammefjorden are two of only six products in Denmark that holds the label for Protected Geographical Indication (PGI) (Ministry of Environment and Food 2015). Vegetables and especially fruits are Zealand’ stronghold in relation to agriculture and food production. The production is mainly located in the southern area of Zealand (see figure 2) The region accounts for more than 1/3 of the total fruit production in Denmark (Danish Regions 2012).
Another international and by far the largest independent organization worldwide is the Slow Food organization. The organization is also present in Denmark and had an branch in Copenhagen - Northern Zealand since year 2000 (Slowfooddanmark.dk 2015). The organization originated in Italy and was one of the first gastronomic movements against the increasing spread of fast food restaurants. It can be considered as an alliance between producers and consumers protecting the local foods cultures and tradition and ensuring everyone access to good, clean and fair food (Slowfood.com 2015). Compared to the network for regional culinary heritage, which addresses the farmers, producers and small scale business, the Slow Food organization appeal to the consumers and besides from working to promote the development of quality in food production they also want to increase the Danish population’s awareness of their food choices by focusing on traditions, respect for the nature and a concern for future generations (Slowfooddanmark.dk 2015). It is important to highlight that the concept of Slow Food is different from the concept of regional and local food, but the Slow Food organization is still relevant in this context because it brings attention to food quality and its origin.

Yet another gastronomic movement is Rebellion from the stomach, which was founded in 2004 by a handful of distinctive Danish women. The quite unusual name is due to the fact that the movement originally started as a battle for equal rights (oproerframaven.dk 2015b). The association began as a reaction to the large food elite conference Nordic Kitchen Symposium, which was characterized by its lack of female participants. Later on in 2007 the focus turned to supporting local foods and the organization developed the concept Farmers Market (oproerframaven.dk 2015a). Furthermore in 2009 collaboration with Slow Food Denmark was established. The
concept Farmers Market will, among other initiatives, be described in the next paragraph.

**Current state**

There are various initiatives in Denmark facilitating local and regional food. The initiatives are divided in two; private initiatives, also including international and local organizations, some already mentioned above, and initiatives from the government and/or the municipalities.

*Taste of Denmark* (SAD) is an umbrella organization for Danish food networks. With the above division of initiatives in mind, one could say that this organization is placed in the middle. SAD is seen as the networks political mouthpiece as it works to improve the conditions for SMEs and MSEs. The organization was established as a project in 2011 and it offers specialized courses and organizes themed events and study tours to improve the exchange of experience between the networks’ members, in order to create growth and innovation in the networks. The project has received grants from EU and the Danish Food Ministry’ Rural development program.

![Picture 1: The map shows the local food networks that are organize under the umbrella organization Taste of Denmark (SAD) (Smagenafdanmark.dk 2015)](image)

In picture 1 above the members of SAD are shown. Local food networks from all parts of Denmark are represented. According to SAD the purpose of local food networks is to create synergy among independent actors and enthusiasts in food, who are struggling to articulate a different food culture and other forms of food production than the food production known from structural developed production (Smagenafdanmark.dk 2015). In less than three years (from 2011-2014), the market in Denmark for local food and quality differentiated food was created and the chal-
The challenge is no longer articulation of a market for these products, but for the many SMEs to keep up with the increasing demand and deliver the products (Christensen 2015). While organizations like SAD and the regional Culinary Heritage Networks try to facilitate and develop the locale food producers and regions. There are other organizations that organize initiatives with the purpose of bringing the producers and the consumers together.

A concept previously mentioned in this chapter is the Farmers Market. At the moment, the market is present in three provincial towns of Denmark and it is established and operated by local volunteers. It is a seasonal market, from the beginning of summer to the latest of autumn. Manufacturers and distributors of fresh, local and preferably organic foods of high quality are sold directly to consumers. The purpose of the market is to bring the producer and the consumer closer to each other and increase the availability of good food in everyday life. Another object is to help producers to a larger profit on the goods (oproerframaven.dk 2015a). Farmers Market should be seen as an alternative to the ordinary supermarket trade.

Another concept serving both locale producers and consumers are food communities. In the past years several food communities have started appearing in the larger towns (Copenhagen, Aalborg, Aarhus and Odense) of Denmark and even some smaller towns with only 30,000-50,000 citizens (Lejre and Køge). The concept is that the community buys food directly from local food producers in the local proximity. The food is then packed in bags and delivered or handed out to the food community members. The cost is typical 100 Danish kroner for a bag with different vegetables, and some also offers a seasonal fruit bag. Like Farmers Market, the communities are driven by volunteers and being a member of the community also obligates to deliver some work in exchange for the food bags, for example packaging of food, taking care of dishes to dinner parties in the community etc. The idea started

### In search of more knowledge

- Initiatives on **regional and local** foods
  - The Taste of Denmark (SAD) [www.smagenafdanmark.dk](http://www.smagenafdanmark.dk)
  - Culinary Heritage Zealand [www.regionalmadkultur.dk](http://www.regionalmadkultur.dk)
  - Food Districts [www.madkulturen.dk](http://www.madkulturen.dk)

- Initiatives solely on **local** foods
  - Farmers Market [www.oproerframaven.dk/farmers_markets](http://www.oproerframaven.dk/farmers_markets)
  - Food Market [www.madmarked.net](http://www.madmarked.net)
  - Wise Food Purchase
in Copenhagen in 2008 and the idea has spread to the above mentioned cities over a couple of years and membership is rising as we speak.

A third concept, also addressing the consumers, is the Food Market and despite the fact that it is also called market, it is very different from the Farmers Market, being a grocery store on a fixed location. The Food Market was developed and first established in Præstø, a small town in the southern region of Zealand. Today it is present in four provincial towns in Denmark and some of the places the Food Market includes; a grocery store, a small bakery and a restaurant all in one place. The creators behind the Food Market think of it as a new way to shop and buy food: the local citizens are provided with local foods and local ingredients in a sustainable manner (madmarked.net 2015).

Addressing the Danish government’s role in local and regional foods, one will find some promising initiatives as well. The Ministry of Food, Agriculture and Fisheries of Denmark (now Ministry of Environment and Food) established an independent organization called Madkulturen in 2010. The purpose of Madkulturen is to ensure "better food for all" through a focus on quality, growth within the food industry and the welfare of Danes (Madkulturen.dk 2015b). Among a broad range of projects are two projects; Food Districts and Wise Food Purchase worth mentioning in regards to regional and local foods respectively.

The preliminary project Food Districts serves to stimulate the development by identifying cases for inspiration: Where are the successful SMEs that experience growth and what can we learn from them? Another purpose of the project is to develop a prototype map of the known food districts in Denmark – a map of the different regions foods and food culture. Because the interest for local foods increases among those consumers who are thinking sustainability into their purchase and appreciate authenticity and the good story; taste and unique flavors, there is a great potential for growth in local and regional food producers business. The food producers need to exploit the commercial and food cultural value that the locally produced goods represent.

Wise Food Purchase is an effort under the Ministry of Food, which was established in 2013 and will run until 2016. The main purpose of the effort is to facilitate access to public purchase of organic and local food. Danish municipalities and regions spend over 4 billion kroner every year on foods for public meals and there is a wish to increase the share of organic and local food in meals (Madkulturen.dk 2015a). But there are economic, practical and legal challenges in the transition and that is why the Wise Food Purchase project main focus is to provide free counseling to public purchasers. Furthermore, the project receives experiences from a similar project called Wise Business Ability, which tests new innovative food procurement models, to see if they can facilitate procurement of local foods.
While the mentioned projects and networks mainly focus on farmers, food producers and how the authorities can facilitate optimum conditions and availability, one initiative address the consumer’s awareness of buying local foods. The latest minister of Food, Agriculture and Fisheries, Dan Jørgensen, initiated a Meal Policy Institute that compiled a report containing three overall advice for the Danish consumers; Learn to cook – Use commodities – Eat together with others (Måltidstenketanken 2015). The advice about the use of commodities in the food preparation is further elaborated in the report emphasizing that the commodities preferable should be of local origin.

**Present today and gone tomorrow?**

A common denominator for some of the mentioned organizations is short lifetime. Many of the initiatives are organized by volunteers or funded by temporary projects. An example is the Slow Food Convivia concept in Denmark. The web pages for each Convivia are active, but the activity level for some of the branches is low and the latest news is from 2011 and 2012 (Slowfoodlollandfalster.dk 2015). While these branches of the organization lie dormant others are shutdown. Going through the market survey and mentioned initiatives in the concept paper from Denmark (Kjærsgaard & Mortensen 2013), some projects and references are outdated and the information is unavailable, even though the survey is only two years old. The centre for Experience Research at Roskilde University (2014) conducted a similar market survey about local food in the region of Zealand in 2013 and a quick research of the involved players and mentioned projects reveal the same pattern with unavailable information and business shutting down. This exemplifies how some of the small scale farmers and food producers struggle to make ends meet. Maybe the lack of organization in networks result in short lifetime of projects or in worse case shutdown of business, probably due to economic reasons (Sundbo & Olsen 2014). The use of networks as a strategic approach of SMEs in regards to the Reg-Food project has been analyzed elsewhere (Brinkmann et al. 2014) and will not be elaborated here.

The research also reveals positive projects and great success with expanding business for the players in the above mentioned market surveys. Based on information from the surveys and additional research, the last section of this chapter will touch upon the future trends for local and regional foods in Denmark.

**Future trends**

In the nearest future we will see retailers establishing sections for local suppliers in their supermarkets. In Lithuania the trend is already seen in three supermarket chains that exhibit separate sections for local and organic food. Within the last few years it has become more or less common for Danish supermarket to have a section for organic foods, and the SAD organization see great potential in creating a similar specific section for local and regional foods (Christensen 2015). One of the Danish retail chains that took the lead in introducing local foods in their stores is COOP.
The retail chain is experiencing an increasing demand for unique, authentic and local goods and they expect to increase the sale to about one billion kroner within a few years (dr.dk 2015).

Online shopping and the use of modern technology in promoting regional and local foods also have great potential in the future. A large percentage of the Danish population owns and use a Smartphone in their everyday life and it would be wise for the local food producers to incorporate this technology in their marketing strategy. Freshfarm for example is a website and an app for iPhone, where you can search for the nearest market or local farm shop. The project is still in its early state (only available for iPhone and only in the region of Zealand) but there is great potential in this technology in combination with regional and local foods.

Another future trend is the storytelling aspect of local and regional foods. Local foods could be branded as a tourist attraction, telling a story of the area and how the food culture has developed over time. Knuthenlund estate, Dragsholm castle and Gavno castle are examples of places in the region of Zealand that offer this concept.

**Summarizing the chapter**

- Over the last decade local and regional food has once again gained ground in Denmark
- Organizations like Culinary Heritage, Slow Food Denmark and Rebellion from the stomach started the movements against industrial food production
- The interest for initiatives like Farmers Market and Food Market is growing and consumers are joining food communities in the provincial towns as well as in the cities.
- The Danish Ministry of Environment and Food are engaged in local and regional foods.
- Local food as a tourist attraction is a trend that will gain ground in the coming years.
- Regional foods will be more available on the shelves in the Danish supermarkets in 2016.
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Chapter 3: Local and regional food - perspectives from the south Baltic region of Sweden

History, current state and future trends

Viktoria Olsson

Summary

Traditionally, the south Baltic region of Sweden has been seen as the breadbasket of the country. Still, due to comparably favorable production conditions, the region represents an important food production area and approximately 25% of the food that is produced in Sweden is produced in Skåne. Local and regional food may tie together the past and the future. Traditions and trends appear and disappear cyclic fashion and most of the Swedish food culture is affected by influences from other cultures and regions. A number of current Swedish consumer surveys point at the fact that the interest in local and regional food is large and growing. Previously, local and regional food was often marketed directly via farm shops or fairs but with an increasing consumer demand, most major food retail stores in Sweden offer at least a small range of products originating from the nearby region. The direct connection of foods and beverages to a specific region may mean new competitive abilities for old companies as well as inspiration for entrepreneurship, development and innovation.

History

The composition of the diet is dependent on several factors. Geographic and economic conditions determine the availability of foods but socioeconomic and cultural factors are also very important in shaping the way we eat. Social development can therefor affect the composition of the diet as well as our foodways. Traditionally, the south Baltic region of Sweden has been seen as the bread basket of the country. Due to comparably favorable production conditions the region represents a very important food production area in the country. The unique prerequisites of this rural area and the long tradition of food production has created a special culture and a feeling of affinity among food producers and food consumers in the Skåne region. An old motto that has been attributed the people of Skåne, and that illustrates the important role of food in the area reads:

*Good food, plenty of food and food at the right time!*

Historically, culinary art in Sweden has, with a certain delay, followed international trends and the Nordic countries were early incorporated in trade with colonial goods (Swahn, 2015). Regarding the practice of different cooking techniques, one of the first sources is from the early 16th century and originates from the region of Östergötland. Many dishes were then served in broth, soups and ragouts were
common, eaten from a bowl by using a spoon or bread. The diet was, to a large extent, based on cereals, legumes or vegetables and meat, fish and eggs were less frequent. The 17th century era was characterized by the so called “fatabur-kitchen” (the fatabur was the storage room for food). It was based on the necessity to harvest and collect when food was in season and preserve it for other parts of the year through for example drying, curing or smoking (Skaarup & Boyhus, 2011). These conservation methods featured this region to an extent so that also today, when modern preservation methods like the freezer and fridge have made the old methods redundant, we seek and highly appreciate the flavors and aroma brought about by smoking, curing and drying. Many people in the south Baltic region still also love the sweet and sour flavors brought about by using vinegar (ättika) and sugar or honey, presumably originally popular as a contrast to all the salted fish and meat that was consumed (Skaarup & Boyhus, 2011). In 1658, Skåne went from being Danish, situated in close proximity to the power in the capital of Copenhagen to being a more peripheral area in an alien country, Sweden. This created a stagnation in culture, known from other similar events. The people of Skåne tended to stick more firmly to ancient ways of living and eating, resulting in that the old southern Scandinavian food culture, tracing back all the way to the middle ages, is better preserved in Skåne than elsewhere (Skaarup & Boyhus, 2011).

Among noble Swedes, German, but also French, chefs and food habits were influential. At the royal court, a large number of different dishes were often served. This banquet custom lingered into the 18th century and was by then considered old-fashioned by visiting foreigners (Swahn, 2015). New customs were now introduced, among them the so called “brännvinsbord” which meant that the gentlemen initiated the meal by drinking Scandinavian vodka or schnapps. The selection of many dishes accompanied with vodka still remains in the form of the Swedish “Smörgåsbord” which is commonly served for Christmas, Easter and Midsummer celebrations.

During the last 150 years the food culture has changed at an increased speed. The transformation of agriculture, as a result of reforms, the industrialism and intense research and development in the area of cultivation and breeding lead to entirely new opportunities for food production (Skaarup & Boyhus, 2011). The development was from a diverse production run from self-sustaining units that primarily produced food for own use to a more specialized production intended for the market (Skaarup & Boyhus, 2011). From having eaten almost exclusively what could be produced in a very regional or even local area, complemented with what was foraged from nature, the new incomes from selling farm produce during the 19th century, lead to people successively abandoning the custom to grow and breed their own food. The food was bought in stores and large parts of home production, followed by its craftsmanship and know-how was forgotten (Skaarup & Boyhus, 2011).
The consumption patterns have continued to change during the last 50 years. Food has become cheaper in comparison with other goods and the share of the disposable income that the Swedish households spend on food has decreased (Statistics Sweden, 2014). Every day-food has undergone a radical internationalization, for example through the introduction of pizza, hamburgers and Asian food. Another apparent trend is that towards simplification and convenience through fast food and semi-ready dinner solutions. A better economy and access to foods from all over the world has led to a new food culture based on a large scale production in which the origin of the produce has not been local or regional but rather global. Consumers have gradually become more distant to both how food is produced and prepared. However, traditional produce and cooking techniques have always remained important in menus for banquets and other celebrations (Swahn, 2015). The most famous Swedish meal, The Nobel banquet, often features local and regional foods, like roaster from Skåne or Salmberries from Gotland. Furthermore, the Swedish everyday-food “husmanskost” has remained popular among many groups and attract may more attention from a new generation of chefs. Traditional dishes prepared in the south eastern part of Sweden and based on local or regional produce include:

- Äggakaka (a type of thick pancake served with fatty pork and lingonberry jam)
- Spettekaka (Sweet cake mad off eggwihite, potato flour)
- Kroppkaka (a type of potato or barley dumpling filled with pork, game or eel)
- Saffranspannkaka (Pancake with saffron)
- Brown beans with fatty pork
- Kalops (meatstew)
- Skånsk äpplekaka (Applecake)
- Pickled herring
- Rye bread (hard and semi soft)
- Meatballs with potatoes and lingonberries

Local and regional food may tie together the past and the future. Traditions and trends may appear and disappear cyclic fashion and, as already mentioned, most of the Swedish food culture is affected by influences from other cultures and regions. Buckwheat can serve as an example how a food, over time, can be introduced and used in a region, go out of fashion and reappear in culture as a new vintage. Porridge has for centuries been a staple food in Sweden. It has been based on different cereals in different regions depending on what could be cultivated, rye and buckwheat porridge was in eaten in Skåne. In the 18th century, the famous researcher and botanist Linneaus noted on the large fields cultivated with flowering buckwheat. He made comparisons with how the people of Skåne lived and eat as compared to the Sami people that he had observed during his travels in the northern part of Sweden. Linneaus noted the high porridge consumption in Skåne, how porridge was made and eaten at night and reheated or fried in the morning. Linneus meant that the
different diets had a large influence on the characteristics of the people of the south and the north of Sweden. Albeit common during the 18th century, buckwheat disappeared from cultivation in the 1930-ties when industrial fertilizers was introduced. But now it may have been reintroduced to our region again—via Japan. An entrepreneur called Gunnel Pettersson has started to grow buckwheat in Skåne and processes it—not into porridge—but into Japanese noodles and blinis! Local and regional food is thus also “glocal” food!

Current state
Agriculture and the use of the rural landscape is the prerequisite for the production of food. Structural developments in agriculture over the last decades have led to fewer but larger and more specialized farms in Sweden (Statistics Sweden, 2014). The number of people engaged in agriculture is steadily decreasing and many Swedish farms are very small if measured by labour requirements. About 2% of the economically active population is engaged in farming and the farmers’ average age is high, 72% are older than 50 years (Statistics Sweden, 2014). As shown in figure 1, animal husbandry is the dominant line of production but in the southern counties the cropping farms dominate (Statistics Sweden, 2014). About 60% of the arable land is found on the fertile plains of southern Sweden and approximately 25% of all food that were produced in Sweden were produced in Skåne (Jörgensen, 2013). Most of the food produced in elsewhere in Sweden is also produced in Skåne and some crops, for example sugar beet and fruit is almost exclusively produced in this region.

![Figure 1. Characteristic type of farming by county. In Skåne the number of cropping farms is larger than average in Sweden while the counties of Blekinge and Småland are characterized by animal husbandry (Statistics Sweden, 2014).](image)
The dairy sector plays a central role in Swedish agriculture. The number of dairy cows has, however, been decreasing over a long period of time (Statistics Sweden, 2014). The number of farms with livestock has also decreased the last decades whereas those remaining have increased their number of animals. In 2013, there were dairy cows in 4,700 farms. There is an average of 74 dairy cows/herd (Statistics Sweden, 2014). In 2013 there were roughly 1,300 pig farms in Sweden. Around 92% of the fattening pigs were found in herds with at least 500 animals (Statistics Sweden, 2014). Egg production is dominated by few but large flocks. Over 97% of the hens of laying breed are found in herds with at least 5,000 hens (Statistics Sweden, 2014).

Another source of meat is game, of all meat consumed in Sweden, 4% consists of game (Swedish Association for Hunting and Wildlife Management, 2015). Game is consumed monthly by 22% of the Swedes, more often in the northern part of the country than in the southern parts (Ljung, Sandström, Ericsson, & Kvastegård, 2014). Moose and roe deer are the most commonly eaten game, but wild boar meat consumption is rapidly growing. Minor prey is hunted to a very small extent but of cultural interest in the south Baltic region, is for example sea fowl and rook. According to retailers the demand for game is growing, during 2012 in the range of 10-15% (Lundgren, 2013).

In the case of horticultural holdings the South Baltic region of Sweden has a nationally leading position. In 2011, approximately 50% of the Swedish enterprises involved in greenhouse and outdoor horticultural cultivation were localized to Skåne, Blekinge, eastern Småland and Gotland (Statistics Sweden, 2014). Measured in terms of cultivation area the dominating outdoor crops during 2014 were: strawberries, carrot, apple, iceberg lettuce and onion (Swedish Board of Agriculture, 2015a). For more than a decade, the Swedish greenhouse production has exhibited a continuous increase in energy efficiency and a steady transition towards renewable fuels (Swedish Board of Agriculture, 2015a). Also in later stages of the chain, Skåne dominates, two thirds of the processing industry for fruit, berries and vegetables is situated in this region (Jörgensen, 2013).

Beekeeping is very important for pollination of fruit trees, berries and many other crops as well as for honey production. In 2011, the estimated economic value of the pollination was between 26 and 47 million Euro according to the National Board of Agriculture in Sweden. Bees are often kept by small scale holdings, nationally there are approximately one hundred professional beekeepers in Sweden (Swedish Board of Agriculture, 2015b). The origin of honey should be declared but in case the product is a mixture of honey from different EU member states the origin does not have to be declared. The professional beekeepers see it as a very important question that the origin of all honey should be declared and urge consumers to buy local or regional honey to ensure biodiversity (The Swedish Professional Beekeepers, 2015).

The fish species in the Baltic Sea are a mixture of marine and freshwater species adapted to the brackish (low salinity) conditions. Their distribution is largely gov-
erned by salinity levels. Of the roughly 100 fish species inhabiting the Baltic Sea, about 70 marine species dominate the Baltic Proper, while some 30-40 freshwater species occur in the coastal and the northern areas (HELCOM, 2006). Commercial fish species caught in the south Baltic region of Sweden are for example Cod, Herring, Sprat, Baltic flatfish species, Salmon, Sea trout and Eel. It is of the utmost importance to analyze the impact of fishing activities on coastal fish communities, including regional aspects. This analysis should be included in the future assessments of coastal fish (HELCOM, 2006). No crustaceans are commercially caught in the Baltic sea but sweet water crayfish is caught both in the wild and raised in ponds in the counties of Skåne, Blekinge and Småland.

The absolute volume of food harvested directly from nature or produced in private gardens is not easily estimated and in this paper no attempt has been made to quantify the volumes. However, many Swedes collect wild berries and mushrooms and other food ingredients for recreational and/or economic reasons. In Sweden 35% of the population claim that they eat “home-picked” berries every month and 29% that they eat mushrooms that were gathered by themselves (Ljung et al., 2014). The Swedish legislation and the “Allemansrätt” allows everyone to do so independent of if you own the land. Typical berries harvested in the South Baltic region include lingonberries, bilberries, wild raspberries, and salmonberry. Mushrooms as chanterelles and champignons are also harvested and play a role in the regional cuisine. In the southern parts of Sweden it is also relatively common to collect for example elderberry flowers, nettles and ramsons from nature.

To summarize, the South Baltic region of Sweden is an important area for Swedish food production. Significant crops are cereals, oilseed, potatoes, sugar beet and leguminous plants like green peas and brown beans. These are grown in larger areas and harvested with better yields than in the rest of the country. Horticultural holdings mainly produce carrots, lettuce, onion, cabbage, apples and strawberries for the local, regional and national market. Although Skåne is dominated by crop production, pork, beef, poultry and processed meat are also produced in the region, as well as dairy products and eggs. Vegetables, fruit, herbs and spices and various preserves are made in Skåne, Blekinge, Småland and Gotland. Honey and game, fish and plants from the wild are also harvested. The production of different types of beverages, like beer from micro-breweries, ciders, fruit wines and different non-alcoholic varieties is a segment that has grown a lot in the southern part of Sweden lately.

During 2014, the Swedish Board of Agriculture undertook a survey to map the occurrence of traditional Swedish foods and agricultural products with ties to a specific geographic area. This was part of the government commission to develop gastronomic regions in Sweden (Smaka Sverige, 2015). The goal was to identify products that may come in to question for protected designation of origin (PDO) and protected geographical indication (PGI) according to the EU-regulation. The ambition is that Sweden, in 2020, will have tripled the number of protected Swedish food products. Currently, only five Swedish products are protected, among them Spettekaka from Skåne and Brown Beans from Öland. The new list of potential products for Skåne, Blekinge, Småland and the islands of Öland and Gotland in-
clude among other, spickekorv (a dried, salty sausage from the Swedish food history) kroppkaka (a type of potato or barley dumpling filled with pork, game or eel) and Gotlandic wheat. The whole list is to be found here: [http://smakasverige.jordbruksverket.se/](http://smakasverige.jordbruksverket.se/)

Many agricultural enterprises engage in combinatory activities and complement the agribusiness with construction, tourism or further processing of farm products (Wretling Clarin, 2013). As an example 13% of the rural farmers are also engaged in construction (including for example snow clearance) and 7% in tourism-related activities. In this segment of multi-tasking farmers may of the producers of local and regional foods are found. However, when looking at the structure of the food-processing industry, Skåne has a comparably high number of large companies (>250 employees) than the rest of Sweden. However, the dominance of these larger companies has decreases and a drift towards micro- (<10 employees) and small companies (10-49 employees) can be noted (Jörgensen, 2013).

Within Swedish politics there is a somewhat newfound and growing interest in food and food production and under a new government, the former efforts expressed through “Sweden - the new culinary nation” are substituted for a new governmental food strategy. The food strategy will, according to the responsible minister, encompass the entire food production chain, from primary production to food industry, exports, trade, consumer, public sector consumption, restaurants and culinary experiences. The ultimate goal of the strategy is to provide jobs and sustainable growth throughout the country (Ministry of Enterprise and Innovation, 2015). Consequently, for some time now, the emergence of small scale food production has been recognized and stimulated in Sweden. This has led to a remarkable evolvement of local food producers that are important in trade and industry and that enriches the food market.

There is obviously an abundant access to different local and regional food in the South Baltic region of Sweden, but the question is how this is perceived by the modern consumer? Is the origin of food an issue for the common consumer living in the south Baltic region of Sweden? And can local and regional food be expected to be an increasingly important marketing niche for the processing industry and retail?

Consumer demand for food has changed during the last decades resulting in an increased demand for both globally and locally produced foods and beverages (Jörgensen, 2013). A number of Swedish consumer surveys points at the fact that the interest in local and regional food is large and growing. On a national level, a survey from 2015 conducted by The Federation of Swedish Farmers and ICA, the largest food retail chain in Sweden, show that more consumers than previously say that they choose food produced in Sweden. 75% of the Swedes choose to buy foods that are produced in Sweden compared to what they think is produced in another country and consumers claim they are prepared to pay more for food (Johansson, 2015). According to this survey, meat is a clearly product category where origin matters a lot. Among the reasons for buying Swedish are; animal welfare, less use of antibiotics, shorter transportation and a concern about Swedish
agriculture (Johansson, 2015). Thus, for many consumers it is no longer enough to know that the product is, for example ecologically produced, the place and person that lies behind the production of the food is also of interest and product quality is in focus (Nygård & Wramner, 2013). Geographic indications signal that the foods are well worth buying as they originate from a specific place or area (Sandberg, 2010). Consumers often perceive product quality as associated with, and even dependent of, the specific production region and its physical, biological and cultural prerequisites, its terroir (Nygård & Wramner, 2013). The fact that a product can be associated to a certain terroir is of central importance for place-specific foods and agricultural produce and thereby also for the application of geographic indications (Nygård & Wramner, 2013). Research show that local and regional foods create a positive attitude that lead to an increased intention to buy (Fernqvist & Ekelund, 2014). Further, regional and local brands or marketing schemes has a potent effect on the consumer habits within a specific region (Fernqvist & Ekelund, 2014). However, an interesting phenomena that coexists with the consumer interest in local and regional food is that an increasing share of the food that is sold in Sweden is imported and that the market share of anonymous, private label foods continuous to grow. This can be an expression for that many consumers think that imported foods are exchangeable to those produced in Sweden (Jörgensen, 2013).

One key initiative for marketing of local and regional food in the south Baltic region of Sweden region is the retail concept "Smaka på Skåne - Närproducerat och nog utvalt" – which can be translated to ”Taste Skåne - produced nearby and chosen with care". The aim of this concept is to facilitate both consumers and local and regional producers finding and locating the products in food stores in Skåne and its surroundings. The criteria for labeling these products include regulations on geographic origin of production and processing and documentation of this (Skåne Food Innovation Network, 2015). Unprocessed products have to be cultivated/caught/raised in Skåne. Regarding processed products, the key ingredients should be produced in Skåne. Furthermore, processing/production shall be carried out in Skåne in an artisanal manner. This concept is primarily applied to products originating from small and middle scale food companies, as stated by the EU definition of SME: s.

The Regional Culinary Heritage concept was developed and introduced in Southeast Skåne and on the Danish Island of Bornholm in 1995. The project developed rapidly and received considerable interest from businesses and authorities within the region, as well as from other regions throughout Europe. In the winter of 1997/98 a European project group was established in order to introduce the concept throughout Europe. In spring 1998 the first new European regions joined the network. It is the ambition of Regional Culinary Heritage to offer tourists and consumers regional foods without fuss. Selected restaurants, food processing businesses and farms that highlight their regional connections are members of the European network for Regional Culinary Heritage. The businesses have to comply to set criteria. These states that the products should be food of local origin or that the major manufacturing value should come from the region. The products should also con-
tribute to a positive image of the region among other things. All counties in the South Baltic region of Sweden are represented in the European network for Regional Culinary Heritage (Skåne, Blekinge, Småland and Gotland).

There are several other official and private initiatives which directly or indirectly support local food businesses. Direct support to companies through business- and product development is offered for example through The Federation of Swedish Farmers, The Rural Economy and Agricultural Societies or other types of organizations like Transformat (http://www.krinova.se/transformat/) and the Skåne Food Innovation network (http://www.livsmedelsakademin.se/en). A very "hands on" assistance program in product development is available for small scale food producers interested in either beverages made of fruit via The Center for Innovative Beverages (Swedish University of Agricultural Sciences, Balsgård) or other foodstuffs through the Centre for Food Development, CLUK, in Karlshamn (http://cluk.se/).

Previously, local and regional food was often marketed directly via farm shops or fairs but with an increasing consumer demand, most major food retail stores in Sweden offer at least a small range of products originating from the nearby region (Andersson, 2011). It is, to conclude the description of the current state of local and regional food production, consumption and market, clear that the direct connection of foods and beverages to a specific region may mean new competitive abilities for old companies as well as inspiration for entrepreneurship, development and innovation for new (Sandberg, 2010).

**Future trends**

In northern Europe the demand for locally produced foods continue to increase and these products are perceived as clean, authentic and free from chemical additives (Nygård & Wramner, 2013). For many, the ideal picture of agriculture and food processing involves traditional and artisanal methods, often associated to southern Europe. According to Nygård and Wramner (2013), this conception can partly be the result of a conscious ambition to emphasize regional features and of a successful marketing of southern European regions for gastronomic tourism. Other underlying factors to the rising interest for local and regional foods may be a new generation of chefs and consumers who are interested in sustainability issues, and who perceive locally produced foods as better for the environment and for health. In Sweden, television broadcasting of “infotainment” programs focusing on food culture and self-sufficiency in food production like “The history eaters” and “100% farmer” probably both steams from and induces an interest in local and regional foods as does the contemporary “hipster” subculture associated with an interest in organic and artisanal foods. In our busy everyday life foraging berries and mushrooms and other exiting food stuff like different herbs and “weeds” from nature seems relaxing. Making preserves like jam and different juices, baking sourdough bread and cooking “slow food” are creative activities, more like hobbies than a necessity to feed the family during the coming winter months. The gastronomic trend called “New Nordic Food” and the “Manifesto for the New Nordic Cuisine” signed by Nordic chefs who, already in 2004, has probably also meant a great deal
for the current interest in local and regional food. The quest for unique produce
have led to a very promising new initiative called “Exceptional produce” where
Swedish chefs and the Federation of Swedish farmers cooperate with producers to
“increase the contacts and deepen the relationships between chefs and producers
in Sweden” and to test produce from different producers. The initiative is de-
scribed as a “quality-oriented, broad and inclusive initiative to develop modern
gastronomy and provide the growing network of top-level restaurants who use
quality produce which is uniquely Swedish. The actual definition of exceptional
produce can however never be entirely static as location, season, sort and breed
matters much, and it is precisely this richness in diversity which the project
strives for” (Hamberg & Hovstadius, 2015).

Today, even large fast food retailers like McDonalds, endeavor to present the origin
of the food served. However, today restaurants that serve local or regional and
ecologic food are no longer “sticking out” to the same extent and we have come to
a stage when documented origin and production methods often are taken for grant-
ed when dining out. Instead analysts predict
“a backlash against the over pretentious, like demanding food that is locally
grown in a unsuitable climate or only eating food originating from the nearest
grove of trees”(Boëthius, 2015).

However, there are still many food caterers both on the private and public arena
who don’t pay much attention to issues regarding local or regional food production.
Here lies a large potential in raising awareness and knowledge regarding food quality
in less conscious food caterers as Swedish consumers tend to eat more and more of
their meals out of home (Delfi Foodserviceguide, 2014).

The agriculture in the south Baltic region face many future challenges as well as
opportunities. The global competition is fierce and the added values of local or
regional production is not always easily communicated. Many farmers struggle with
low profitability and few representatives from the younger generations are prepared
to become farmers or food producers. New, improved techniques may improve the
working environment and the dependence of input from non-renewable sources.
The climate change may be both an possibility for growing new crops an creatin
agro-food business around then, like for example wine production. However, a
changing climate may bring about new threats in the form of pest and diseases,
draughts or storms.

Can the market for local and regional food continue to grow in Sweden? Five years
ago, there was still not so much up-scaling going on in the local and regional food
chain in Sweden. Logistics and transportation was (Franzén, 2009), and still is, a key
issue for producers and consumers of local and regional foods. Small volumes and
somewhat remote production sites make the cost of transportation unreasonably
high in relation to the total value of the product. New initiatives in the logistic area
are however emerging, as an example the company “Bondens Skaffferi” can be
brought forward. Retailers now see the commercial possibilities that opens up when there are consumers who think it is worth paying more for food with a documented origin and quality (Sandberg, 2010).
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Chapter 4: The current state and future capability of the local and regional food system in Mecklenburg-West Pomerania

Philipp Brinkmann

About this chapter

• You will gain an insight to Mecklenburg-West Pomerania and its local and regional agro-food system.
• We will investigate further recent innovations available to local and regional food producers.
• You will gain an understanding of innovation processes as well as the ways in which local and regional food producers can distinguish themselves from their competitors.

Mecklenburg-West Pomerania (MWP)

MWP is a federal state located in the northeast of Germany. The state covers an area of approximately 23000 km² (approximately half of Switzerland) including borders in the east with Poland and with the Federal State of Brandenburg in the south. The coastline of MWP is almost 2000 kilometres long and encompasses five islands within the Baltic Sea\(^1\). The largest island is Rügen which is also the biggest island in Germany. MWP has a population of about 1.6 million people. From 1990 to 2011 the population has decreased by almost 290000 inhabitants, which makes MWP the most sparsely populated federal state in Germany. Two-thirds of the state's area is utilised for agriculture. The importance of tourism is continuously growing in this region, since 1995 the number of overnight stays has doubled.

Opportunities and threats to regional food producers

- The Baltic sea is a distinguishing feature that sets MWP apart from other geographical areas in Germany
- The agri-food system may benefit from a positive image, appearing as a tourism destination for example.
- Within 150km from MWV Berlin and Hamburg are located (two of the biggest cities in Germany)

\(^1\) If not quoted another author the data presented in this paragraph are extracted from the statistics agency of Mecklenburg-West Pomerania (Statistisches Amt Mecklenburg Vorpommern 2012)
The local and regional food system in Mecklenburg-West Pomerania

The majority of farmland in MWP is used for crop production which supports a huge and diverse group of livestock. Surprisingly however, there are relatively small numbers of farmers that receive their principal income from breeding livestock. Less than 5% of all farmers in MWP are operating in the livestock sector and 14% of the farmers work in arable as well as livestock farming. The livestock farms might be few in number, but in general they have a large number of farm animals and livestock. Almost two-thirds of the cattle breeders keep over 500 animals and one third of pig breeders keep in excess of 5000 farmed animals. The average farmland in MWP is about 285 ha which, in comparison with other federal states in Germany, is a relatively large land mass to be controlled by a single farm. Almost 90% of the MWP’s farms have more than 200 ha whereas, in Bavaria this rate stands at just 4.9%. There are several geographical, historical and economic reasons for these comparatively big farms, the main causality stemming from the former membership of MWP to the German Democratic Republic during the Cold War period. At that time, a large Agricultural Production Cooperative dominated the agro-food system in the country. That cooperative collectivized farms resulting in huge farmlands.

Farmers have a major impact on the protection of the countryside itself, the wildlife and the livelihood of communities within rural areas. The cultivation of cereals characterises the landscape settings in most parts of MWP. Currently, there is a trend of cultivating energy crops (as silage maize) which could change the landscape in the long term. The growth of silage maize farming has increased in recent years, even though the crop yield of cereals has decreased continually over the last decade. Despite this decline in yield, the cultivation of cereals, in particular wheat and barley, still dominates the agricultural landscape in most areas of MWP.

The most significant aspects of the regional food system are primary products of agriculture and fishery. The infrastructure for processing these primary food products would need to be further developed in order to compete in an already saturated European food market, not doing so might result in problems with future sales (MLUV 2012). The butchery and the dairy businesses boast an above national average number of employees in the industries (HIE-RO 2012). On a value basis, these two sectors are the most important business sectors by far within MWP’s food industry.

Despite these impressive employment statistics there is a lack of large industrial units in MWP’s agri-food industry, only 50 firms with more than 100 employees are located in this federal state. Accordingly, the food sector in MWP is dominated by

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2 If not quoted another author the data presented in this paragraph are extracted from the statistics agency of Mecklenburg-West Pomerania (Statistisches Amt Mecklenburg Vorpommern 2012)

3 If not quoted another author the data presented in this paragraph are extracted from the statistics agency of Mecklenburg-West Pomerania (Statistisches Amt Mecklenburg Vorpommern 2012)
small and medium-sized enterprises. Furthermore, the craft-based and micro sized food companies are very important for the federal state. The 367 craft producers in MWP employ 9124 people (1,307 people in marginal employment) which averages 25 workers as bakers, butchers or confectioners per company. The craft-based food business gained a total annual turnover profit of more than 415 million Euros in 2009 alone. Following on from the food industry and the craft-based food businesses, catering is the third most important part of the regional food system. 2732 catering companies employ 22000 people; they achieved a total turnover profit of 684 million Euros.

**Opportunities and threats to regional food producers**

- Short distribution channels secure freshness and high quality foods
- The agricultural character of the region and the existing processing companies enables a steady value chain.
- Food sector is characterised by a missing processing depth of the primary food
- Increasing industrial farming:
- Balancing between tourism and industrial livestock farming (e.g. odour or pollution of rivers and the Baltic Sea

**Distribution channels for local and regional food products**

MWP has an existing network of food promoters, producers, processors, distributors and retailers that facilitate the selling and marketing of local and regional food products. There are three principal distribution channels that are illustrated by examples in Table 1: (I) Direct-to-consumer market refers to the promotion and sale of a food product straight from seller to consumer. (II) Indirect to consumer selling involves intermediates. Regional and local food products are distributed by a third party like supermarkets or restaurants. (III) Supporting agencies and labels that promote and facilitate the marketing of local and regional food products in MWP.
<table>
<thead>
<tr>
<th>Some examples of direct-to-consumer market</th>
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<tbody>
<tr>
<td><strong>Farmer's markets</strong></td>
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<tr>
<td>About 500 farmer’s markets are located on communal spaces in MWP providing an opportunity for farmers to sell their products directly to consumers (Ortsdienst Media n.d.). One third of the German consumers are regular customers of a farmer’s market (DLG 2011: 45).</td>
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<tr>
<td><strong>Farm shops</strong></td>
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<tr>
<td>72 farm shops are located in MWP (Verband Landurlaub 2013).</td>
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<tr>
<td><strong>Online stores</strong></td>
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<tr>
<td>There are regional networks that promote products and sell them via the Internet (Gutswerk n.d.).</td>
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<tr>
<td><strong>Community Supported Agriculture (CSA)</strong></td>
</tr>
<tr>
<td>CSA farms cultivate produce for farm participants or subscribers who pay in advance for their share of the harvest in MWP (Solidarische Landwirtschaft n.d.)</td>
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<th>Some examples of indirect to consumer selling</th>
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<tr>
<td><strong>Supermarket</strong></td>
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<td>Supermarkets are by far the main source of regional food (BMELV 2012 Dialego 2008). There are labels of trade chains in MWP that focus on regional produced food.</td>
</tr>
<tr>
<td><strong>Cooperation between farmers and gastronomy</strong></td>
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<tr>
<td>“Ländlichfein” is a union of restaurateurs and food producers / farmers concerned with producing food locally and it’s delivery to restaurants. The majority of the food produced in this trade is organic (Ländlichfein n.d.).</td>
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<tr>
<th>Some examples of seals and labels for promoting local and regional food</th>
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<tr>
<td><strong>Biosphärenreservat Schaalsee</strong></td>
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<tr>
<td>Label for products from biosphere reserve Schaalsee: environmental ambitions and conservation of the countryside.</td>
</tr>
<tr>
<td><strong>Regional Culinary Heritage</strong></td>
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<tr>
<td>A network with member regions all across Europe. The concept is based on agreed criteria for participating businesses. The island of Rügen is one of the regions currently participating in this network. (ENRCH n.D)</td>
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<tr>
<td><strong>Rügen Produkt</strong></td>
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<tr>
<td>Label for products from the island of Rügen (Rügen Produktte Verein e.V. 2012)</td>
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</tbody>
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Some examples of Marketing selling supporting agency in MWP

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<tr>
<th>Agrarmarketing MWP e.V.</th>
<th>Union to promote products from the MWP’s food industry (Agrarmarketing Mecklenburg-West Pomerania n.d.)</th>
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</thead>
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<tr>
<td>landaktiv e.V.</td>
<td>Association to promote sustainable agriculture in MWP (landaktiv verein n.d.,)</td>
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</table>

Proposals for further working task:
Search for local and regional food products in your supermarket or via the internet. Read up about different criteria and the definitions given to local and regional food outlined by diverse organisations and labels. Compare the criteria and rules with EU schemes for regional food: (I) protected geographical indication (PGI) (II) traditional speciality guaranteed (TSG) (III) protected designation of origin (PDO) (http://tastesofeurope.eu/quality/)

- What are the advantages and disadvantages of the labels you found?
- Based on your findings, how would you define a local food product?
- Based on your findings, how would you define a regional food product?

Selling conditions of local and regional food
Local and Regional food has become the latest “trend” for the retail industry in Germany (DLG 2011) A study, reported that 37% of the interviewees buy local and regional food regularly and 44% declaring themselves as occasional buyers. In comparison to organic foods, which used to be the former growth market in Germany, regional and local produced foods have a far larger market potential (Grahmann, Antonoff & Falser 2011). As became evident from another study, half of the German consumers agreed with the statement: “High quality exists if the food is sourced out of my region” (Michels 2011). Niche products such as local and regional foods imply safety. Hence, when the large-scale conventional food industry suffers significantly bad press due to scandals, the market for local and regional food sees impressive gains with a growing confidence in local producers amongst the population.
The requirements and expectations of regional and local food is that it should not be more than a short transport distance or instead be produced locally to its consumer outlets. These products also imply tradition, safe consumption and familiarity. This is illustrated by chart 1 which demonstrates the perception of quality by consumers of their local and regional food. It becomes evident that these products are associated with desirable special features, strong emotive feelings as well as a positive image.

**Chart 1: Quality perceptions towards regional food and regionalism**

![Chart showing quality perceptions towards regional food and regionalism](image)

The evidence depicts a growing interest in regional and local food products. In order to fulfil the aforementioned requirements and expectations you need to be a special kind of producer. These specific companies sell what consumers perceive as authentic food by presenting the production chain as one with high transparency. This is portrayed by a small scale food producer: “[Consumers] do not just buy because the cupboard is empty […] The product in itself really does not matter; it is the story around it, the familiarity and the relationship” (Brinkmann et al. 2014 p.174). In general, innovations are associated with the idea of creating something new such as a new product development, adoption of new processing methods or simply novelties in a product’s packaging and merchandising. In many respects, the food and drinks sector appears to follow a different logic. Contrary to old car models, easily recognised as out-of-date and old-fashioned inevitably resulting in a fall in value, traditional food and recipes retain their relative value to consumers (Leis, Gijsbers & van der Zee). Knowing this, it could be hypothesised that one can be innovative in the food business simply by maintaining a traditional style or standpoint. In times of highly standardised products with a constant look, taste and smell, authentic and traditional foods become unique and innovative; even though it may have been produced or cooked in the same way it always has been. This is particularly true amongst local and regional food producers who sell traditional...
foods or focus their efforts on continuation of their cultural heritage. However, it might not be sufficient to simply sell a regional or local food. In many cases, consumers appreciate the special quality of local and regional foods but are often unwilling to pay more for them as demonstrated in Chart 2.

Based on DLG 2011

Local and regional food producers need to transfer the value of their products to their consumers making the public aware of the wide variety of benefits as handmade, tradition or sustainability. They need to create a compelling and credible story

Opportunities and threats to regional food producers

- Regional is currently a “Trend”
- Existing distribution channels for regional/local food in Mecklenburg West Pomerania
- Recent food scandals provided a noticeable loss of image for the food industry: regional food implies safety and tradition
- Increasing demand for organic food in recent years. Potential for regional food to be combined with organic food
- Unwillingness of consumer to pay more for local and regional food
Summarising the chapter

- Local and Regional food has become the latest “trend”
- If producers sell authentic food, with high transparency, then local and regional food has a large market potential.
- Producers need to create an innovative concept in order to convince consumers to pay more for local or regional food.
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Part II: Social and economic benefits of local and regional food
Chapter 5: The quality of local and regional food

Viktoria Olsson and Sarah Østergaard Brandt

Summary: It is no simple task to define food quality and depending on whether you ask a scientist or a consumer you could end up with two very different definitions. In the following chapter we will provide a definition and explanation of food quality in the context of local and regional food. The quality concept is divided in production quality, the way the food has been produced, and product quality, the quality of the produce itself. Most effort will be put on the latter, based on an illustration of four important product quality traits. Last, a short account for how consumers perceive the quality of local and regional food and their very varying reasons for purchasing it or not.

How to define food quality?

Food quality is, as noted by many researchers before us, a complex concept. In its simplest form quality can be understood as a product’s ability to meet the expectations of the user. However, as quality also can be understood as “properties” or “inherent value”, different food quality parameters may be of importance depending on where in the food chain you operate. Also for the end user, the consumer, the perception of food quality vary widely due to factors like culture, age, economic resources and knowledge. It is further difficult to draw system boundaries of what should be included in the concept, should for example the way the seeds were treated and package material recycled be part of the quality of a tomato?

Few food products are identical and the quality of food stuffs is seldom determined by a single property but by a combination of several properties. To make sense of the concept it is important to try to make a combined evaluation of the different properties and express the result as reductionist as possible (Beck-Friis et al., 2013). It is however often impossible to combine all data into a “total quality concept” (Beck-Friis et al., 2013).

It is common to discriminate between objective and subjective quality. Objective quality concerns those properties that can be measured or analyzed in for example a laboratory while the subjective quality is about such traits that are experienced by the end user, the consumer. The subjective quality is associated with expectations and may be about how the food has been produced, how it is presented, in which context it is consumed and ethical and cultural considerations.

One way of entangling the quality concept may be to divide further it into 1) production quality and 2) product quality. The production quality encompasses the way the food has been produced. It deals with sustainable production methods, food security issues and cultural and ethical considerations like animal welfare. The way the food has been transported and processed and how packaging materials and nutrients can be recirculated are also included in production quality. Some production quality properties are objective and can be evaluated. As an example, life-cycle assessment (LCA) is a technique for systematically analyzing a product from cradle-to-grave,
that is, from resource extraction through manufacture and use to disposal resulting in a value whereby the environmental impact of the specific product can be assessed. Through LCA different production and distribution methods can be compared objectively. Other production quality traits are more subjective. For many consumers the production conditions associated with animal food production is concerning. Many care for how the animals that provide us with meat, milk and eggs have been reared and treated during transportation and slaughter. The assessment of animal welfare can either be based on objective research on the physical and mental needs of the production animals but also on more subjective, ethical positions regarding how we believe animals should be treated, positions that may vary in-between different cultures or even in-between individuals.

From a consumer, producer and retail perspective, local or regional production is often a positively value loaded concept. However, it can be discussed whether the production quality is generally different for this type of food. The relationship between locally produced foods and social benefits are complicated (Wretling Clarin, 2010). It is far from self-evident that locally produced foods support collective desirables like a reduced climate-impact or increased employment any more than would food produced in more distant places or by other techniques. Small local producers may also deal with financial circumstances that do not permit focus on sustainability and ethical considerations like animal welfare.

The *product quality* concerns the quality of the produce itself. Also here different properties has to be taken into account. Figure 1 can serve as an illustration of four important quality traits and how they can be perceived by the consumer. In the following we will try to account for if and how local or regional production of food may impact on these traits. The presentation is not complete and we do not claim to cover all aspects, instead it can be seen as “food for thought” regarding these issues.

Figure 1. An illustration of four important product quality traits and how they can be perceived by the consumer.
Hygienic and toxicological quality

Safe foods are a basic requirement and it is almost taken for granted that the foods that we buy does not carry pathogenic microorganisms or is poisonous. In Scandinavia we are “spoilt” with high hygienic and toxicological quality but unfortunately it is impossible to completely avoid harmful substances in food, because many of them are produced naturally in the food or can be found in the environment. The Nordic climate in combination with thorough official control programs has given Denmark and, perhaps even more so, Sweden, some production advantages in relation to hygienic and toxicological quality. The need to treat plants and animals with antibiotics and pesticides is relatively small here in comparison with other countries. This reduces the risk of antibiotic resistant bacteria as well as residues of medicines and pesticides in the food.

However, various food scandals, from the discovery of Bovine Spongiform Encephalopathy (BSE or “mad cow disease”) to more recent outbreaks of Salmonella, E. coli and Listeria have affected food producers and consumers in Europe. During the 1990s there was an increase in the number of food-borne diseases in Denmark. Especially outbreaks of Salmonella increased during the period due to increase in the poultry, and later partly due to pork and eggs. A third increase in 1997 was mainly due to eggs. The development was turned as a result of a focused effort from authorities and the food industry, but salmonella outbreaks are still present today. It was until 2014 recommended by the authorities that eggs were not consumed raw, and some risk groups are still advised to follow the recommendation. While the disease of Salmonella rarely causes death, it is unfortunately the case with the disease of Listeria. The mortality rate is approximately 25%. In Denmark, there are usually about 50 disease cases per year. But in 2014 the incidence was remarkable high, with over 90 cases (SSI, 2015). The cases attracted attention in the public media. This type of cases affects the consumers and it may lead some consumers in the direction of the local and regional producers.

There have been various surveys of consumer attitudes towards food safety. In a Danish survey, conducted in 2002, the Danish consumers seems to be relatively skeptical about food safety, compared to consumers from other European countries, particularly with regard to eggs and meat, but also to some extent to fresh fruit and vegetables. Skepticism regarding eggs and fresh meat must certainly be seen in context with the salmonella problems, and the BSE scandal in the late 1990s, while consumer skepticism regarding fruits and vegetables probably is related to the fear of pesticide residues in the products (Jensen, 2002).

The food scandals have led many national food regulatory agencies to tighten food safety and inspection legislation. These developments may be seen, in a world of growing food trade, as a way to protect national food markets and critique is raised against them regarding unclear effects on public health (Miewald et al., 2015). Policies around food safety are one arena in which large-scale policies can produce consequences for small-scale production (Carter-Whitney, 2008) and some assert
that food safety and inspection legislation threaten the economic viability of small-scale producers and processors.

One of the tools to achieve the goal of safe food is traceability (National Food Agency, 2012). Traceability is about tracing and following all foodstuffs, food producing animals and other substances intended for use as foods, through all stages of the food chain. The demand for traceability is regulated by food legislation but may be supported by for example other authorities, customers, food retail or as part of certification schemes. For local and regional food production and consumption traceability should be natural. A defined sender is often a key element in marketing this type of food and as discussed earlier, consumers often perceive product quality as associated with, and even dependent of, the specific production region and its physical, biological and cultural prerequisites, its terroir (Nygård and Wramner, 2013).

Some years ago the horsemeat scandal flattened the food industry in all of Europe. The lack of traceability in the pre-prepared frozen meals and meats served at restaurants, resulted in thousands of Europeans consuming horsemeat instead of beef meat, without knowing it. The main issue was the sub suppliers that sold horsemeat as if it was beef meat, to large food enterprises like the Swedish Findus, a leading international frozen food enterprise, and other food enterprises in Europe. The scandal received great attention in the media and the food ministers from the countries involved were hastily called for a meeting with the European Consumer Commissioner, despite the fact that no hygienic or toxicological hazards were present in this case. The scandal had huge economic consequences for the food enterprises involved, but the consumers’ food safety was never at risk. A scandal like the horsemeat scandal can be an advantage for the local and regional food producers, because the consumers’ demand for traceability is increased and the trademark for many local and regional food producers is to write origin- and traceability descriptions directly on the package. The same kind of traceability is difficult in large scale production because of varying suppliers depending on season and price (Erin-Madsen, 2013).

However, local and regional food production can also be associated with hygienic and toxicological hazards. Larger food producers typically have more resources to ensure and maintain effective routines while local and regional food production is often characterized by small scale enterprises where a lack of competence and resources may constitute a risk factor.

The local and regional production prerequisite as such is another area of caution. Cadmium (Cd) is a metal that is harmful to the environment and to health. The main source of exposure to cadmium for non-smoking humans is via foodstuffs, and in Sweden 70% of this intake is in the form of cereals, potatoes and vegetables. Plant properties, pollution inputs and soil factors all influence Cd concentrations in agricultural crops. The conditions that prevail in Skåne, situated close to the continent, with an intense agriculture high levels of cadmium in the bedrock and densely populated constitutes a special problem for this region (Backe et al., 2003). In a joint report from several Swedish authorities, among them the Swedish Environmental
Protection Agency and the National Food Agency, an action plan to reduce cadmium exposure is suggested (Swedish Environmental Protection Agency, 2013). This plan might affect local and regional food producers in that it suggests;

1. To decrease the production of cereal-, potato- and vegetable varieties that have a naturally high uptake of cadmium in areas where the soil exhibits high cadmium content. Another, adjacent action is to shift to the use of varieties that are not as prone to take up cadmium.

2. To use the right produce to the appropriate type of food. This implies ways to, via information, steer producers to try to use produce and raw materials with the lowest possible cadmium content in the production process. This may be applicable for foods that is consumed in large quantities or by risk groups like infants (e.g. baby formulas).

3. (Swedish Environmental Protection Agency, 2013)

The possibilities for the different regions of the South Baltic area to, on a national level, affect the cadmium levels in food are limited as a lot of the food that is consumed is imported and originates from other regions or countries. Further, cadmium is deposited to our arable land also from external sources via fertilizers and through pollution.

Another harmful substance, acrylamide, which is classified as carcinogenic, is a chemical that can be found in coffee as well as starchy foods, such as potato and cereal products, which have been deep-fried, roasted or baked at high temperatures. The levels of acrylamide can vary considerably between products and can also vary for the same product that has been cooked or processed at different times. Levels of acrylamide in cooked potato products are primarily influenced by the levels of reducing sugars in the product and this in turn is influenced by where and how the potato is grown, storage time, temperature and variety of potato used. In investigations of the acrylamide content of Swedish foods, the National Food Agency has found that, for most foods the number of products that exceed the indicative value set by EU is decreasing (Hellenäs et al., 2013). However, the exception is potato chips where too high levels in relation to the indicative value are found in chips from most Swedish producers. One of the explanations to these increased levels may lie in that potatoes grown in Sweden, for unknown reasons, result in higher levels of acrylamide than does potatoes grown in many other parts of Europe (Hellenäs et al., 2013). More research is therefore needed concerning the effect of regional growing conditions and choice of potato variety on the formation of acrylamide in potato products.

**Nutritional quality**

Several factors determine the nutritional quality of fruits and vegetables: the specific variety chosen, the growing methods used, ripeness when harvested, post-harvest handling, storage, extent and type of processing, and distance transported. The vitamin and mineral content of fruits and vegetables depends on decisions and practices all along the food system – from seed to table – whether or not that sys-
tem is local or global (Firth, 2007). There are however, some factors that indicate that the nutritional value of a regionally or locally produced fruit or vegetable may be as high as or even higher than the equivalent food item originating from more distant places. Foods grown far away has been transported and handled more and therefore there is a risk of nutrients loses before reaching the consumer. Further it regionally or locally produced fruit and vegetable can be harvested and sold at their peak of ripeness, often meaning that the nutritional quality is optimized. Farmers growing for a local market can, to a greater extent, favor taste, nutrition and diversity over transportability when choosing varieties. Greater crop diversity from the farmer means greater nutritional diversity for the eater (Firth, 2007).

However, with modern processing methods nutrient retention is less of a problem and as an example studies have shown that frozen vegetables like broccoli, beans, spinach and carrots have a more uniform nutrient content than does the fresh equivalents and that the retention of, especially vitamin C is better when the vegetables are frozen than when they are sold fresh.

In Denmark there is an area of North West Zealand called Lammejorden (the area is highlighted in Figure 1 in chapter 2) where the soil conditions provides the farmers with incredible good agricultural land. The soil is rich in nutrients, particular chalk. The good conditions were created when the inlet was dammed in 1875. The nutrients were created by dead plants and animals that for thousands of years fell down on the seabed and became mud. In some places of the inlet the mud is more than 20 meters deep, which is quite unique. Deposit of sand, and especially also clay, is present in the mud, and in large parts stones are replaced with mussel- and oyster shells given the soil naturally high calcium content. The carrots that are grown here are very rich in vitamins and taste, and is one of six products in Denmark that holds the label for Protected Geographical Indication (PGI) (Ministry of Environment and Food, 2015). The characterization of carrots from Lammejorden is an extra high content of natural carotene and sugar. Carotene is the precursor to the formation of vitamin A and sugars affect the sweet taste of the carrots. The nutritional quality is a huge part of this regional producer’s trademark.

Regional variations in nutritional content may be more evident in minor crops in which the genetic material has been conserved. As an example, horseradish, which has its origin in Southeast Europe, was brought to the Nordic countries by monks during the thirteenth century. Here, horseradish was used both as a bitter spice and as a medicinal plant to treat headaches, digestive disorders, high blood pressure and gout. A recent study of Nordic horseradish populations revealed considerable genetic and phenotypic diversity between accessions clustered in accordance with the country of origin (Wedelsbäck Bladh, 2014). Consequently, the horseradish originating from different parts of the Nordic countries exhibited variations in regard to their nutritional content. There was a high variation in glucosinolate levels among the investigated accessions and the vitamin C content also varied between accessions - from 57 to 182 mg /100g FW (Wedelsbäck Bladh, 2014). The most likely explanation to the high diversity in horseradish could be the introduction to Nordic
cloisters and subsequent distribution to different parts of the countries at many different occasions (Wedelsbäck Bladh, 2014). Another crop that exhibits variations in its nutritional value depending on where it has been grown is black currant, where fruits grown in the south of Sweden had higher contents of most phenolic compounds, ascorbic acid and soluble solids than those grown in northern Sweden (Rajeev Vagiri, 2014).

**Technological quality**

Technology is part of the industrial food production today and it provides many opportunities for the industry as well as for the consumer. But some of these opportunities are subjects for public debate namely because of the interference with what some consumers find natural for a food product. While the debate previously was about food additives, the present debate is about whether or not we as consumers will “allow” genetic modification (GMO) of our crops and foods (Justesen et al., 2010).

When referring to technological product quality, we mean properties that mainly influence the further processing of the product, be it in the food industry or in the kitchen. It may be the water-holding capacity of meat or the amount and type of protein in wheat. The technological quality is, as is the case for all product quality traits, a result of many production factors from genetics to cultivation and rearing measures. Analogously, local or regional production may affect the technological quality to some extent, even if is not all that evident. The production of Durum Wheat on the island of Ven, in-between Denmark and Sweden, may however serve as an example. The climatic conditions on the island makes it possible to grow Durum wheat further north than what is usually the case. The durum wheat is “hard”, which means that protein and starch in the wheat kernel is more tightly bound than in other types of wheat cultivated in Sweden. This “hardness” is a technological property that makes the durum flour ideal for making pasta. It makes the pasta smooth and glossy. Hence, local conditions may permit for different technological quality attributes.

**Sensory quality**

A sensory property can be defined as the human physiological-psychological perception of a number of physical and other properties of food and their interactions (Rahman et al., 1999). We examine the food using all our senses (touch, sight, taste, smell and hearing) and signals are sent to the brain which interprets the signals and comes to a decision about the food's sensory quality. Food sensory quality has been suggested to comprise:

- Tactile properties, from touching and handling the food using for example cutlery as well as in the mouth, experiencing cooling, pungent or astringent sensations
- Textural properties, perceived mainly by biting and mastication, i.e. by the mouth
- Color and appearance, i.e. the visual perception
- Odor, the volatiles entering through the orthonasal passage
- Flavor, i.e. the five basic tastes (sweet, salty, sour, bitter and umami) perceived by the taste buds in the mouth and the aromatics, i.e. the volatiles released from the food via the retronasal passage
- The sound of the food, like the sound when braking or chewing hard bread (Rahman et al., 1999, Meilgaard et al., 2007)

Sensory properties are measured by trained or untrained sensory panels or individuals, i.e. the consumers. The sensory quality of food is of utmost importance when consumers choose food. Taste can seldom be assessed in beforehand in the supermarket, like it can in for example a manual cheese shop, but once experienced, an appealing taste is very important for buying the product again. Many value taste as more important than for example the nutritional quality of the food. Labeling products with different brands is an effective way for companies to inform the consumer about the taste of a certain product (Lundin, 2011).

Picture the taste of a ripe and sun warm strawberry that you put in your mouth directly after it has been picked and compare with those that were perhaps picked yesterday, and that are served cool after having been stored in the fridge overnight. When fruits and vegetables are picked at the optimal stage of ripening and eaten as soon as possible or after a short and careful storage, they taste more. And, opposite, when they are selected and treated for storage and transportation the full taste may be compromised. Reasons for this “lack of taste” have been widely discussed, and the main accepted explanation is that the industry has been focusing on yields, pest resistance, product homogeneity, durability and low price, while taste parameters have been a lower priority within plant breeding, production and distribution (Fernqvist, 2014). Further, there is the notion that the sensory quality of a product depends on where it has been produced. As noted earlier, consumers often perceive product quality as associated with a product terroir (Nygård and Wramner, 2013) Countries like France recognized the importance of special sensory attributes of a region as a unique quality marker more than a century ago when laws were imposed to protect the wine sector from falsification (Rytkönen et al., 2013). As described by Rytkönen et al. (2013) the association with the origin and place of production is communicated clearly by that the product carries the name of the place, like Champagne or Roquefort. Food quality in relation to the French model can be described as:

“The quality of a food product is intimately associated with an interplay between a given, demarcated geographical area – a local- with some nature-given prerequisites and production methods which have been shaped during a long period of the history, conforming to the conditions of the territory.” (Jonsson, 2011)
Thus fresh, seasonal produce from the near region is likely to have a special and attractive sensory quality. Further, special varieties may stand a better chance of surviving in local/regional systems contributing to a more varied product flora and richer sensory experiences. However, in Scandinavia we often claim that the long summer days and special light conditions, in combination with cool summer nights result in fruit, berries and vegetables with a highly developed aroma but the scientific evidence for this is not evident.

The role of product quality in the purchase situation

When consumers buy food they balance price and quality. Some consumers value quality before price while others appreciate a low piece more (Lundin, 2011). Generally it is not complicated for the consumer in a buying situation to find out the price of a certain product. It can be considerably more difficult to assess the product quality before consumption. Some properties, like the color and shape of a potato or the state of ripening of the strawberries are more evident and can be valued before purchase while others can be detected first after consumption, others still, like the origin and production and processing methods are impossible to assess without oral or written information through labeling. There are different types of labeling. Firstly, the ingredients are declared through the ingredient list. Many products are further sold under a specific brand and this branding can also be a way of signaling quality. Strong brands are associated with high quality (Lundin, 2011). Mandatory or voluntary labeling is another way of informing consumers about different quality properties like production and processing methods. Knowledge about the meaning of different types of labeling helps the consumers to make well informed buying decisions and quality competition in-between companies is favored by credible information about the quality of a product (Lundin, 2011). The possibility to label a food product in a credible way may lead to a more varied product assortment. Products with certain qualities, which may be the case for example in locally or regionally produced food, generally have a higher production cost than does those of other (lower) qualities. It is thus of importance to be able to communicate certain information to the consumers so that they may identify for example locally produced vegetables and for them to be willing to pay for them. In this context it may be appropriate to discuss the producers, the senders, role and importance for the locally produced food. In lacking a formal definition of local and regional food, it will be the distinguishable sender who will act guarantor for the locally and regionally produced food. Just by being distinguishable a small-scale producer can create confidence among consumers (Wretling Clarin, 2010). A sender using a geographic origin and proper contact details gives a credible impression (Wretling Clarin, 2010).

Does the consumer think that local and regional production of food affect food quality?

It is known that consumers have different reasons for choosing locally or regionally produced foods, it may be the close proximity of the production as such, favoring
of small-scale production, climate-concerns, quality, taste a distinguishable sender or other things (Wretling Clarin, 2010). Generally properties associated with production quality are more important reasons for choosing locally produced food than does properties associated with product quality. Through mapping where the consumers buy their local food and through discussing their consumption patterns as well as their content in their fridges Joosse (2014) draws the conclusion that “local food” includes various understandings, postulations and procedures. Even if consumers tend to discuss local foods in a similar manner, the consumption pattern regarding this type of food differ fundamentally in-between persons. It can comprise anything from growing your own vegetables, subscribing to locally produced “grocery bags”, take part of collective purchase groups or taking pride in enjoying fancy dinners with friends, entirely based on local produce.

A Swedish thesis by Fernqvist (2014) report that including ‘origin’ as a credence cue, result in a strong country-of-origin and regional effect on consumer liking, favoring domestic and regional food over imports. Further, the more regional or local the product is believed to be, the higher the evaluation scores. This effect is moderated by origin or belonging to the specific area, which tends to increase liking for products from the same region. This would explain why, in the studies by Fernqvist, a label signaling ‘Swedish’ affects Swedish consumers.

Urban consumers, although somewhat “disconnected” are among the most concerned about food issues and this group is often interested in local foods. However, this does not necessarily translate into purchase behavior. Convenience of the “one-stop” supermarkets along with availability, price and labeling were found to be barriers to the purchase of local food (Penney and Prior, 2014). The rivers for buying local food on the other hand were freshness, health benefits and improved quality (Penney and Prior, 2014).

The fact that we, as consumers, put different values in the concept of locally and regionally produced food, makes the concept somewhat diffuse. The concept does, however, canalize a very positive and growing trend in that consumers are interested in the production as well as product quality of what they eat. Hopefully all parts of the food-chain, including food scientists and educators can seize this interest. Shewfelt wrote already in 1999:

“most postharvest researchers, producers and handlers are product-oriented, while consumers, marketers and economists are more likely to be consumer-oriented in that quality is described by consumer wants and needs”, (Shewfelt, 1999)

Thus, more than 15 years ago he pointed at the problem that not much research does both parts of the chain i.e. production and marketing issues. Hopefully, the strive for high production and product quality will be a future beacon in food production and consumption in the south Baltic region, thereby reconnecting different parts of the food-chain.
Summarizing the chapter

- **Food quality** is a complex concept. A common way to define food quality is to discriminate between objective (properties that are measured and analyzed) and subjective quality (traits experienced by the consumer). In this article the concept is further described by dividing it into production quality and product quality.

- **Production quality** encompasses the way the food has been produced, e.g. cultivation and rearing measures, processing and transportation.

- **Product quality** is illustrated in figure 1. The figure shows four important product quality traits and how they can be perceived by the consumer.

- **Hygienic and toxicological quality, *i.e.* food safety** is of great concern for the consumers. The number of food scandals in the food industry may contribute to directing consumers toward local and regional foods with high *traceability*, but these small scale producers also face challenges regarding *hygienic and toxicological hazards.*

- Some literature suggests that local and regional food producers have some advantages when it comes to the *nutritional quality* of the products, especially fruits and vegetables.

- **Technological quality** includes properties that influence the further processing. It is a result of many production factors from genetics to cultivation and rearing measures and local or regional production may affect the technological quality to some extent.

- The **sensory quality** of a product is important when consumers choose foods, but it can rarely be assessed before purchase. When buying products from local producers the consumer has the opportunity to taste and talk about the product before purchase.

- **Consumers** have different reasons for choosing locally or regionally produced foods and perceive quality differently. However, the phenomena canalize a positive and growing trend in that consumers are interested in the production as well as product quality of foods.
References


Chapter 6: What makes local food attractive to consumers?

Andreas Håkansson

In order to understand the potential of local and regional food, we must first understand what it is about these goods that attract consumers. This chapter summarizes the research on what drives local food consumption, starting from an overview of the motivations of the consumers themselves and different descriptions of what characterizes consumers of local food (“locavore”), and continuing with potential explanations for underlying motives.

In recent years, there has been an increased interest in local and regional food: interest from researchers and government officials, but also from food producers. Local farmers markets are springing up in communities in many areas of the industrialized world, including the south Baltic region. This increase is coupled with an increased consumer demand in local and regional food throughout the region. In this chapter we investigate why consumers are now demanding local foods. An increased understanding would help to better understand the potential of local food from both a political perspective, and, from a marketing one, help to market existing and develop new local and regional food products.

Effective demand

Before discussing motivations, it is important to first define what is meant by saying that consumers have a demand for local food. Demand (or effective demand, to be more precise) is a technical term defined as a willingness linked to an ability to pay for a good or service at a given price. It should be separated from having an interest in something or in preferring to have something only if it could be obtained at no additional cost. I might have an interest in obtaining a luxury sports car, but I do not demand it, since I am neither able nor willing to pay the price at which it sells for.

As has become apparent, consumers do not only have an interest in local food, but are expressing an effective demand; despite the fact that buying local food is often more costly than alternatives – either in terms of higher (perceived) prices or in terms of availability – an increasing volume is actually consumed.

Figure 1. Locavores in action at a local food fair in Sweden 2015.
Does consumers or producers drive the demand for local food?

Two distinct perspectives on what drives consumer demand in general can be identified in the scientific literature. Demands can be alternatively seen as arising from the consumers or from the producers. In order to better understand local food, we must explore these contrasting theories on what primarily drives what we observe to be a demand expressed by consumers.

The first perspective was inspired by the Austrian economist, Leon Walras (1834-1910). Despite the groundbreaking work of the Scottish economist Adam Smith (1723-1790) decades earlier, the details of how market behavior in general and, in particular, of how equilibrium market prices arise, was not well understood in his time. Walras offered a solution by using mathematical analysis to describe the interplay between consumers and producers on a market. He was a firm believer in what would later be referred to as the law of consumer sovereignty, which states that consumer demand is the underlying and primary driving force determining how markets are organized, what goods are supplied and at what prices and qualities the producers supply (Lerner, 1972). Through the use of his models he argued that, in a competitive market, any producer not offering products that consumers demand will be forced into bankruptcy and substituted with a more responsive alternative. From Walras’ perspective, the primary reason why local and regional foods are supplied is that the consumers see a reason for buying local foods even when they come at a higher cost than alternative products.

This might be perceived as uncontroversial to many readers, but it should be remembered that the argument works equally well in the other direction: The primary reason why globalized large scale industrial food production still has the largest part of the market is that most consumers do not see sufficient value in buying local foods at the price at which they are supplied. Why then should any official agencies (such as governments or the EU) promote local food?

In modern-day economic thought, Walras’ perspectives are now often seen as an oversimplification of a much more complex situation (Bowles & Gintis, 2000). Nonetheless, the notion of true consumer preferences as the primary source of demand, and as determinants of market outcome, are still regarded as valid to a large extent within the economic tradition (e.g. Waldfogel, 2005).

A competing perspective is ascribed to the American economist John Kenneth Galbraith and was formulated in the 1950s (Galbraith, 1958). Galbraith acknowledged that consumer sovereignty might have been the dominant factor in a long forgotten past, but he believed that this ended when modern large corporations and advertising came along. According to Galbraith, modern day consumer demand does not originate with the consumers but from producers actively creating needs in the consumers through manipulation by advertising. Galbraith argued that this started as a consequence of the large increase in output created by industrial large scale production. From this perspective, the relative strength in consumer demand
between local and industrial food is simply a matter of how manipulative the different types of food producers are. Since large scale industrialists have access to more capital and marketing experts, they are expected to have an advantage in creating a need for their products in consumers. More controversially, later theorists have claimed that this artificial creation of needs through commercialism is not only present in advertisements, but has been seeping into more and more parts of society, creating an underlying “marketplace ideology” that exercises extensive control over consumer preferences and actions, see Arnould & Thompson (2005).

Many modern scientists are convinced that both the Walrasian and the Galbraithian perspectives offer some relevance. Marketing has an influence on consumer preferences, at least in directing more basic preferences towards specific goods or services. However, marketing literature often emphasizes that no amount of marketing could, during any prolonged period of time, lure consumers into consuming products not offering a perceived benefit to the consumer (Kotler & Keller, 2011). In this chapter, we will not take a definite position as to what extent preferences displayed by consumers have primarily arisen as consequences of actions taken by producers or the consumers themselves, but rather summarize some of the contemporary perspectives on how these preferences can be understood.

However, before continuing in describing consumer views on local food, it should be noted that our objective in this chapter is to understand consumers’ preferences and what consumers value. We will not focus on the extent to which the perceived advantages are objectively true, or even rational, for an observer external to the individual consumer. A consumer might demand a specific food because they perceive it as being healthier or more environmentally friendly than the alternative even if an external expert would determine it to be a less advantageous in this respect. This contrasting perspective need not influence preferences as long as the consumer remains convinced of their original view.

**Who is the local food consumer?**

Some initial insight into what consumers of local food value in these products can be obtained from studies of how consumers motivate their local food consumption. Many consumers state that they consume local food for altruistic reasons, they see buying locally as a way of supporting either their local communities overall or the local farmers and food producers. Some studies even rank this as the single most important factor. Many of the local consumers perceive the local food as more environmentally friendly and as being of higher quality, with better freshness and taste (Swedish Board of Agriculture, 2010; Pearson et al., 2011; Thilmany et al., 2008).

Studies have also compared consumers who consume local food (“locavores”, see Figure 1) with those who state that they do not in order to observe differences between the two groups. Contrary to conventional wisdom, there is no clear relationship between income and the probability of consuming local food; local food is not a luxury bought only by the affluent (Louirie & Hine, 2002; Thilmany et al.,
2008; Zapeda & Li, 2006). Instead, studies show that locavores put more emphasis on factors such as animal welfare and the environment, and have greater concerns with what they perceive as problems with modern industrial food production (Weatherell et al., 2003). Local food consumers are also described as having an above average interest in food and cooking (Zapeda & Li, 2006).

Another perspective can be obtained by investigating why other consumers do not buy local food. These consumers often describe local food as expensive and overly difficult to obtain (Khan & Prior, 2010). Additionally, it seems as though consumers who describe themselves as more price sensitive are less likely to buy local food (Weatherell et al., 2003; Thilmany et al. 2008).

In summary, when asking consumers themselves, the local food consumers stand out as a group more concerned with quality than price and as a more interested, concerned and unselfish group. As we will see, other studies have tried to challenge this view.

Other methods of understanding consumers

Trust what people say is not always the best way of understanding the genuine underlying motives of local food consumers. In part, because we are aware that there is a gap between how people act and what they say in interviews and surveys. Consumers might state that they buy locally when they do not, or give motives other than what actually drives their consumption. This commonly-termed value-action gap is often observed when asked about sensitive topics where respondents have a clear image about what is generally perceived as the “preferred answer”, such as might well be the case with local food consumption. There are different perspectives of what causes this gap, consumers might want to present themselves as more virtuous, or consumers might simply not be aware of their own motivations. Regardless of why it arises, this gap forms a major obstacle in understanding local food consumption. Two main methods have been used to circumvent this problem.

Economics tends to solve the dilemma by focusing on what people actually purchase. If a consumer decides to buy a local carrot instead of the conventional alternative, they have taken an action that reveals a preference for this local carrot, an action much more informative than a hypothetical or retrospective answer to a survey question. This revealed preference methodology might seem compelling; however, it is often difficult to interpret exactly how different factors interact. Did the consumer buy the carrot because it was local or because it was more colorful? Or did they buy it simply because they happened to walk past it when visiting a farmers market to meet a friend? Studies using revealed preferences have therefore not yet offered any significant insight into the motivations of local food consumption.

Another alternative is for researchers to carefully analyze how consumers of local food describe their intention and use different critical theories to unmask the “real” intentions or preferences of the consumers. This is equally risky since it puts less emphasis on empirical data and more on abstract theories, and the value of any theory is dependent of how closely it describes empirical observations. These
methodological difficulties must be kept in mind when reading the suggested interpretations of consumer motives that follow.

**Using theory to understand local consumers**

Different perspectives have been postulated on how to interpret preferences displayed by consumers. Older theories were often based on the Maslowian hierarchy of needs, which states that humans consume goods and services in order to satisfy needs in a certain pre-defined order, starting with basic physiological needs such as food and shelter and successively moving on to more advanced ones such as safety, belonging, self-esteem and self-actualization. Modern consumption scientists, however, are critical of the Maslowian perspective since our modern experience tells us that these different types of values are more intertwined; consumption tends to address all levels in the hierarchy simultaneously, without order (Slater, 1997). Food consumption, as an example, is used in satisfying basic physiological needs, for comfort, and, on a more abstract level, showing where one belongs and for gaining the respect and admiration of others.

A comprehensive review of aspects that drive consumption falls outside the scope of this chapter, those interested find relevant reviews by Slater (1997) and Arnould and Thompson (2005). Instead, the rest of the chapter will discuss some aspects that have been suggested as of particular importance in understanding local food consumers.

**Locavore identity**

It is often argued that consumption – for better or worse – is an important aspect in building individual identities. Furthermore, it is a defining characteristic of modernity that consumption is readily available in helping us in constructing our identity. In the pre-industrial world, identity was predominantly conferred by the profession or social position of the parents. The son of a miller was a miller and would always be seen as a miller. Formal law and informal rules existed to punish millers trying to pass themselves off as something else, for example, until the 18th Century, Swedish law had strict laws against commoners dressing like priests or noblemen, or even using colors or materials seen as too ostentatious when belonging to a lower social class (Ahlberger, 1996). These days, the miller’s son can dress in a suit and eat dumplings in order to be perceived as a successful member of our modern financial nobility, or dress in hemp and eat local food to be perceived as a sustainable and morally worthy locavore. It is worth noting that this individual does not need to be an expert in financial analysis, or have any real or honest interest in local food in order to buy into these identities, all he needs is the money for buying the necessary goods and services. From this perspective, local food consumption can be seen as

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4 This is obviously an oversimplification, sociologists have pointed to the importance of developing practices to communicate participation in a group or class, and these are not as easily consumed as goods or services. However, even if not always easy, it is arguably easier in modern times to build identity using consumption.
an attempt to build an identity. However, it is an oversimplification to believe that local consumers are all buying into the same static and stereotypical locavore identity. It is a well-known apparent paradox that large numbers of consumers are able to construct what they perceive as individual identities using the same mass-produced goods such as branded trainers and rock band t-shirts. Researchers have argued that similar motivations drive local food consumers. Smithers et al. (2008) asserts, based on the widely varying motivations consumers give for buying locally, that consumers are buying local foods as a tool in their own very diversified identity projects with constantly changing objectives. Locavores are thus a heterogeneous group with more differences than similarities: some are using it to build an identity as food savvy, others as environmentally friendly or supporters of local communities, and the same consumer might fluctuate between these while continuing to consume the same types of local food. This view is further supported by the finding that consumers are never very clear on how to define the term ‘local food’. This implies that local food producers or associated organizations have little to gain in presenting consumers with a clear definition of what constitutes authentically local food, since this would only risk limiting the meanings consumers themselves give the term.

**Escaping modern food production**

Many consumers are deeply concerned with the modern world in general and how it has transformed food production in particular. Under modernity, the individual may have been freed from the oppressive rule of tribal or feudal society (such as laws determining what he or she could wear based on estate) but many feel that something has been lost in the process. The classical sociologists argued that modern man feels ill at ease in this new modern state, either because of the oppressive and de-humanizing conditions of modern society or the lack of its clear rules of conduct.

Critiques of the modern world do not argue that the old ways were necessarily better in all ways, these societies were oppressive, child-mortality was high and starvation was a constant risk for the majority of the population, but it is often argued that there was a stronger emphasis on community and that there existed a more personal relationship between buyers and sellers - in particular between food producers and food consumers. The modern interest in local food production can therefore be interpreted as a method used by consumers to react against the loss of personal relationships with food producers. Consumers perceive the large scale industrial food production that dominates large sections of the market as difficult, even impossible, to form personal relationships with, and instead choose to shop at the farmers market or at a local farm where they are on first-name terms with both the farmers and their children.

Furthermore, the technology used in large scale agriculture and food processing are unfamiliar and somewhat alien to many consumers, and bear little resemblance to the consumers own idealized view of how food production should be performed. Murdoch and Miele (1999) argue that consumers use local food as an escape route,
in fleeing from what consumers themselves perceive as an over-technological food production. Following a similar line of thought, Winter (2003) asserts that consumers use local food in order to take a defensive stand against modern food production. A similar interpretation of the growing interest for local food production is that of it being a consequence of a nostalgic view of food production (Autio et al. 2013). Consumers associate local food with the traditional ways, with the artisan way of production and with their idealized view of how food was traditionally produced and consumed: local food can thus be consumed in order to return, at least figuratively, to a rose-tinted past.

It has been argued that this passive or evasive method of meeting well-grounded concerns of conventional food production is anything but constructive, as it puts too little focus on the demanding and complex question of how to design efficient and sustainable food production systems, and more emphasis on passive patriotism and localism (Winter, 2003).

**Implications for local food producers**

As seen from the discussion above, the more theoretically influenced studies have a much less optimistic view of the local food consumer. Where the locavores describe themselves as altruistic consumers improving both environment, communities and production ethics, the theoreticians in contrast, highlight more selfish and unconstructive motives.

The interpretation of what drives local food consumption will most likely continue to differ. Nonetheless, what is becoming apparent is that local food is in demand and that consumers tend to assign many different meanings to it. What implications then, does this have for the potential of local food for the future? First, in marketing local food, the term “local food” must not always be well-defined. The food producers need not – or should not – explain the advantages of local food production to the consumer, since this only risks limiting the many different meanings that consumers can associate with the term. Secondly, local consumers are not a homogeneous group in terms of motivations or demographics. Producers of local food must keep an open mind when identifying prospective customers.

- Local food consumers often state altruistic motives such as support for local communities and the environment, and concerns of unsustainable industrial food production as reasons for buying local.
- Local food consumers are not a static homogeneous group, they differ over time, in demographics and in their motivations for buying locally.
- Several critical perspectives on local food consumers have been presented, emphasizing the nostalgic, nationalistic or defensive aspects of local food preferences.
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Chapter 7: Health aspects of local and regional food

Dr. Indre Butiene

The food we consume mainly determines how healthy we are. This chapter provides a review on all health aspects of local and regional food.

Is local and regional food beneficial for personal and public health?

Among the most pressing public health problems today are obesity, environmental degradation and health disparities. ‘Food sustainability’ has become a critical issue in the agricultural and environmental sciences and public health nutrition in the context of population growth, rising obesity prevalence, climate change and environmental degradation that occurs as a consequence of the modern food system. The food we consume mainly determines how healthy we are. By doing our best to diversify what we eat, we not only better serve our bodies, but also the environment.

The current global food system faces major challenges in being able to produce sufficient food for a growing world population that addresses the economic, environmental and social imperatives of sustainability. In the last four decades, the modern industrialised food system has been extremely successful in achieving a doubling of world food production, which has kept pace with world population growth. However, these increases have not been uniform across the globe. It is obvious that global food systems are not meeting the world’s dietary needs. It seems extraordinary that there are in excess of 800 million people who go hungry, mostly in the developing world, while there are others suffering from chronic non-infectious disease as a result of overconsumption. Underlying both is a common factor: food systems are not driven to deliver optimal human diets but to maximize profits. For people living in poverty, this means either exclusion from development (and consequent food insecurity) or eating low-cost, highly processed food lacking in nutrition facts and rich in sugar, salt, and saturated fatty acids (and consequently - overweight and obesity). Much of the increased prevalence in obesity and chronic disease is now occurring in developing countries undergoing a ‘nutrition transition’, where consumption of foods high in fats and sugars is rising, driven by urbanisation and globalisation, replacing traditional starchy, high-fibre staples.

The globalised food system and nutrition-related health outcomes

Once considered as a problem only in the USA and other high-income Western countries, obesity (BMI ≥30 kg/m2) has become a major contributor to the global burden of disease. Excessive adiposity is an important risk factor for morbidity and mortality from type 2 diabetes mellitus, cardiovascular diseases and some cancers. The worldwide increase in the incidence of obesity and related chronic diseases has largely been driven by global trade liberalization, economic growth and rapid urba-
nization, which continue to fuel dramatic changes in living environments as well as in diets and lifestyles that promote positive energy balance.

“Unhealthy commodities” - soft drinks and processed foods that are high in salt, fat and sugar, as well as tobacco smoke and alcohol consumption - are leading risk factors for chronic non-communicable diseases (NCDs). Many epidemiologists have argued that economic development pushes populations through a “nutrition transition” from undernutrition to overnutrition, shifting food preferences from traditional diets characterised by low salt, saturated fat, and glycaemic indexes to less healthy, complex western diets that lead to obesity and associated NCDs.

Finding solutions to the obesity epidemic by modifying the current food supply chain to provide less fat, sugar and salt, legislating for tighter regulation of food industry marketing and offering lifestyle modification educational programmes are all legitimate, but there may be untapped opportunities within local food systems to achieve equivalent or possibly better outcomes.

Decades ago, discussion of an impending global pandemic of obesity was thought of as heresy. But in the 1970s, diets began to shift towards increased reliance upon processed foods, increased away-from-home food intake, and increased use of edible oils and sugar-sweetened beverages. Reductions in physical activity and increases in sedentary life-style began to be accepted as well. The negative effects of these changes began to be recognized in the early 1990s, primarily in low- and middle-income populations, but they did not become clearly acknowledged until diabetes, hypertension and obesity began to dominate around the World. Nowadays, rapid increases in the rates of obesity and overweight are widely documented, from urban and rural areas in the poorest countries of sub-Saharan Africa and South Asia to populations in countries with higher income levels. Concurrent rapid shifts in diet and activity are well documented as well.

Changes to the range of available food options have been as profound as those in physical activity. As many countries experience rapid economic growth and changes to food choice and availability brought about by urbanization, concomitant shifts in dietary structure or nutritional transitions occur that promote overnutrition and positive energy balance. These transitions are also fuelled by reductions in prices of low-quality foods that are high in energy and increases in GDP, which are indicative of increased family income and enhanced purchasing power. Epidemiological studies have shown positive associations between the fast-food consumption and weight gain and adverse metabolic outcomes.

Another important challenge has been increased number of multinational, regional and large local supermarkets, which are rapidly displacing small fresh food markets and farm shops. The effect of supermarket on diet quality and obesity can be substantial, as they are a source of highly processed foods, high-energy snack foods, sweets and sugary beverages.

Childhood obesity has emerged as one of the most serious public-health challenges of the 21st century, given the reduction in quality of life and the associated health complications of this condition. Knowledge about childhood obesity is still lacking. Prevalence has risen so markedly and it is clear that shifting social and environmen-
tal contexts play a role. In 2005, there were 1.6 billion overweight people over 15 years of age and a further 400 million people who were obese, according to global estimates, with projections that there will be 2.3 billion overweight people and 700 million obese by next years. In recent years, research and public policy attention has increasingly focused on understanding whether modifiable factors of the local food environment, the types and composition of food outlets families have proximate access to drivers of and potential solutions to the problem of childhood.

**Food-related lifestyle**

The Food-Related Lifestyle scale (FRL) is a concept which has been used to measure people’s attitudes to food-related factors. FRL is a measurement instrument that collects consumer information on attitudes and behaviours concerning ways of shopping, purchasing motives, consumption situation, cooking methods and quality aspects. But only one study has focused on the underlying association between FRL and obesity. That research studied the association of FRL with obesity in five European countries (Belgium, Denmark, Germany, Greece and Poland) and identified specific FRL dimensions as potential predictors of obesity. It suggested that a stronger tendency to prefer snacks vs. meals was a general phenomenon among the sample of obese consumers. Furthermore, the latter attached less importance to quality aspects relating to novelty, freshness, organic products and health, as compared with non-obese consumers, suggesting a lack of involvement with a holistic view of healthiness and foods.

At the same time, physicians are helping patients understand relationship between diets and health; and other groups are raising awareness of the social responsibility we bear for our food choices. More consumers are becoming interested in what they eat, where their food comes from, and how it is produced or processed. Frequently, food environment conceptualizations have been divided into the community food environment and the consumer food environment, drawing a useful distinction between the distribution of food sources within a community and what consumers encounter while inside their local retailers.

As the evidence accumulates for the relationship between the occurrence of many diseases (e.g. adult-onset diabetes mellitus, hyperlipidemia, and colon cancer) and many food consumption patterns, health professionals are beginning to realize that health promotion is as important as the time-honored goal of disease treatment. The emphasis on health promotion has induced professionals in fields outside traditional medicine to focus research and education efforts on food-related behaviour. Four behaviour patterns – choice, purchase, consumption and nutrient intake – are used as the criterion variable by researchers studying food-related behaviour. These four behaviours may be viewed as a set of sequential steps that people perform to maintain or enhance their well-being. People start by making a choice among food products, then making a purchase, and then consuming the food, which results in nutrient intake. Each step is connected to, but not determined solely by, the previous step.
Researchers now are trying to find out if eating locally farmed food is really better for consumers’ health. So far, there’s not real evidence that eating locally farmed food is better for public health. But there are many reasons to think it might be and I will explain why. By definition, locally farmed food is not going to come from large commercial food companies, so people who eat locally aren’t going to consume as much processed food, which typically contains lots of refined carbohydrates, sugar, fat and preservatives.

Figure 1 provides a framework to explain the associations between the current globalised food system and poor nutrition-related health outcomes and direction for future research. The darker arrows indicate where the links between upstream influences on the food system and downstream system outcomes are well established in the literature. The lighter arrows indicate what is not known or where less evidence exists for the links between concepts proposed. However, it is unknown whether the disconnections with nature and between farmers and consumers (intervening social and economic outcomes) affect people’s food choices and subsequent levels of obesity or not.

It is also unclear whether social relations may improve food safety and food supply system sustainability, even though equity of access to healthy food is a well-understood critical component of socially sustainable food systems. These are important relationships to understand, as closer social connections between people in the food system may influence positive food behaviours and health outcomes in ways previously unexplored.
The real cost of our food

Figure 1 (Adapted from O’Kane, 2012) The current food systems (GHG, greenhouse gas; NCDs, Non-communicable diseases)
Similarly, Figure 2 provides a conceptual framework to explain the links between local food systems and global food system sustainability, food safety and obesity. The evidence that local food systems are less detrimental to the environment than the current food system is still not clear. Organic products are common in these systems, but not exclusive, and it is unclear whether their production and distribution systems mitigate carbon emissions. Motivations for using local food systems focus on the procurement of healthy, fresh food, but the evidence that better eating habits ensue is scarce, but promising.

**Eating local means fresher food**

When particular product doesn’t travel across the country, or sometimes around the world, its freshness means higher nutrient levels. Once product is packaged its optimal nutritional level decreases, specifically some vitamins such as C, E, A and some B. There are other factors that come into play, such as exposure to artificial lights and air, and temperature changes. Of course product that has travelled still has nutritional value, but product consumed immediately after its harvest is not only healthier but also more tasty as well. This is due to the fact that the fruits and vegetables are allowed to ripen longer on their branches, vines, bushes, etc. rather than being picked early so as not to spoil during transportation and packaging.
By focusing diet on products grown and raised within 100 kilometres of consumers home, it will likely end up eating more fruits and vegetables as well. Shopping for fruits and vegetables at farmers’ markets is also pleasurable and may lead to more variety in your diet. Furthermore, perishable foods are likely to have improved nutrient levels as they may be fresher as a result of a reduction in time associated with both transport and storage.

Non-local food loses even more nutrients in premature harvest and processing to increase shelf life. In anticipation of transportation and storage, industrial farms pick fruits and vegetables early to prevent over ripening and spoilage; sometimes, they use specific gases to artificially manipulate the ripening timeline. After multiple-day storage and transportation, the product loses vitamins and phytonutrients, a plant substance that provides protective health benefits. By contrast, local food is often harvested at peak ripeness and sold just a day or two later.

**Eating local means seasonal**

Personal health benefits may arise from local food networks as they increase the availability and diversity of seasonal foods that may encourage the purchase of more fresh and unprocessed foods. Eating local means following the natural flow of the seasons - eating whatever the closest farmers have to offer. For ecologists, this means following the natural flow of diversity and discovering local varieties, which might not exist in increasingly uniform grocery stores. This certainly helps to avoid the issue of eating the same things all year round, which is not ideal for health. Additionally, food that is grown seasonally and close by might contain more nutrients that we specifically need at that point of the year.

Recent scientific research papers revealed importance of food diversity in development of allergic and atopic diseases. Prevalence of atopic diseases over the last decades is increasing, especially in Western Europe, and it cannot be explained only by genetic susceptibility. Lifestyle, nutrition, environmental exposures and interactions between genes and environmental factors most likely play a causal role. Research data from last few years revealed that less food diversity was associated with increased risk of any asthma, atopic asthma, wheeze, and allergic rhinitis or that an infant diet consisting of high levels of fruits, vegetables and home-prepared food was associated with less food allergy.

**Eating local means being engaged**

The main social benefit reported from adopting local food systems is the greater trust and connectedness that can be developed between and within consumers and producer groups. This contributes to a re-connection of consumers with producers and may result in improved understanding between urban and rural dwellers and effect food-related behaviour. Also local food may add to the size and integration of local communities, both in relatively sparsely populated rural areas as well as the more densely populated urban areas. This reduces the propensity for some consumer’s to feel alienated from the source of their food. Such an increase in understanding may also lead to greater responsibility for their personal diet. And finally, local
food encourages the development of local shops that in turn may become focal points for valuable social networks in communities. Also eating local often means that consumer can meet the people who produce food, and they can also ask questions about pesticide use and farming methods. Many of current environmental and health issues are due to modern agriculture, and if consumers are engaged with local, natural sources of food, they not only help local producers, but help their own health. Neighbourhood characteristics, such as healthy food availability, have been associated with consumption of healthy food. Consumers usually perceive local food healthier than non-local food. Personal health benefits may arise from local food networks as they increase availability and diversity of seasonal foods that may encourage the purchase of more fresh and nonprocessed foods. Modern food is packed with sugars, salt and unhealthy fats, all of which have been linked to a variety of diseases. Little is known about the influence of the local food environment on other dietary choices, such about making decision to consume organic food. Consumers of organic, local, and sustainable food appear to have similar attitudes and motivations related to their purchasing decisions, including beliefs that organic or local food is healthier, more wholesome and tastes better; concerns for environmental protection, food safety, and animal welfare; and support for local economies and civic agriculture.

**Eating local means less food additives and chemicals**

In addition to creating safety problems during production, many chemical additives that give plastic products desirable performance properties also have negative environmental and human health effects. These effects include direct toxicity, as in the cases of lead, cadmium, and mercury; or carcinogens, as in the case of diethyl hexylphosphate (DEHP). Concerned chemical substances are used as plasticizers, antioxidants, colorants, flame retardants, heat stabilizers, and barrier resins. People are exposed to these chemicals not only during manufacturing, but also by using plastic packages, because some chemicals diffuse (migrate) from the packaging polymer to the foods they contain. Migration potential exists for traces of monomers, oligomers, additives, stabilizers, plasticizers, lubricants, anti-static nucleating agents, and reaction products of the polymer or its additives. These substances may be toxic.

Food additives, which are used in higher levels for globally processed food, also can have negative impact of human and environmental health. It has been shown that artificial preservatives used in many processed foods could increase the risk of inflammatory bowel diseases and metabolic disorders (according to research published on 25 February in *Nature*). In a study done in mice, chemicals known as emulsifiers were found to alter the make-up of bacteria in the colon — the first time that these additives have been shown to affect health directly.

Another potential environmental and health benefit that can result from shorter food chains that they can use less additional packaging to protect and keep the
product fresh during its transportation. By far most food packaging materials and processing equipment are made of plastics, or they contain a polymeric layer in direct contact with food like a laminate or coating. Plastics, polymeric laminates and coatings are complex chemical mixtures. Understanding the leaching of chemicals from plastic-type food contact materials (FCM) into food is an important task for the food packaging risk assessment. Food contact materials (FCM) are an underestimated source of chemical food contaminants and a potentially relevant route of human exposure even to endocrine disrupting chemicals (EDCs). Consumers are exposed to low levels of substances from FCM across their entire lives. Effects of these compounds currently are assessed with a focus on mutagenicity and genotoxicity. This approach however neglects integrating recent new toxicological findings, like endocrine disruption, mixture toxicity, and developmental toxicity. According to these new toxicology paradigms women of childbearing potential and during pregnancy are an extremely sensitive population requiring more attention. Furthermore, in overweight and obese persons a change in the metabolism of xenobiotics is observed, possibly implying that this group of consumers is insufficiently protected by current risk assessment practice. Dry foods can also be significantly contaminated with packaging-related xenobiotic chemicals from printing inks and/or recycled paperboard, especially after long storage periods. Locally grown food does not require excessive refrigeration or packaging, reducing both carbon dioxide output and trash in landfills across the nation as well as reducing harmful effect of EDC for human and environmental health.

Large specialized farms also require massive input of pesticides, herbicides and chemical fertilizers that are dangerous to human health. Humans can be exposed to pesticides via residential proximity to agricultural pesticide applications (drift). The noxious effects that pesticides have on human health have been widely studied in the last century. Observational studies on workers exposed to pesticide, along with animal models of pesticides toxicity, showed how these chemicals can be responsible for detrimental effects on health. Pesticides, a wide class of environmental contaminants, may cause both acute and delayed (chronic) health effects in exposed subjects. These effects can range from simple irritation of the skin and eyes to more severe effects such as affecting the nervous system, reproductive system and stipulate cancer. The molecular mechanisms of these effects are still under investigation. Recently, a new approach aimed at evaluating different mechanisms by which pesticides could impact on human health, altering gene regulation, has been developed. Among these new approaches, epigenetics seems to be a promising tool. In vitro, animal and human investigations have identified several classes of pesticides that modify epigenetic marks, including endocrine disruptors, persistent organic pollutants, arsenic, several herbicides and insecticides. In Table 1 the review of current evidence indicating that epigenetic alterations mediate toxicity form pesticides is presented.
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<td>Rat liver epithelial cells, Mouse liver, V79-Cl3 Chinese hamster</td>
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<td>Herbicides</td>
<td>Paraquat</td>
<td>Histone modifications</td>
<td>In vitro</td>
<td>Immortalized rat mesencephalic dopaminergic cells (N27 cells)</td>
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<td>Dieldrin</td>
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<td>Mesencephalic dopaminergic neuronal cells</td>
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<td>Insecticides</td>
<td>Propoxur</td>
<td>Histone modifications</td>
<td>In vitro</td>
<td>Gastric cells</td>
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<td></td>
<td>Dichlorvos</td>
<td>microRNA expression</td>
<td>In vitro</td>
<td>Porcine kidney epithelial cells</td>
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<td></td>
<td>Fipronil, triazophos</td>
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<td>Zebrafish</td>
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<tr>
<td>Fungicides</td>
<td>Triadimefon, propiconazole, myclobutanil</td>
<td>microRNA expression</td>
<td>Mouse</td>
<td>Liver</td>
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Organic food and pesticides
Little research to date has examined the direct effect of organic food consumption on health, but several studies have shown that consumption of organic food, and particularly organic produce, can significantly reduce pesticide exposure. The American Academy of Pediatrics recently released a report concluding that organic diets expose consumers to fewer pesticides associated with human diseases. This conclusion was partially based on several studies of pesticide exposure in children and pregnant women that suggest even relatively low exposures to certain agricultural pesticides may be associated with developmental and neurocognitive effects, such as decreased gestational age at birth and birth weight, and increased attention deficit hyperactivity disorder and decrements in memory and IQ. Choice of organic food is also an opportunity to support farming practices that can reduce risks to farmworkers and promote ecological health.

Everyone may not have equal access to organic food, and thus may not have equal ability to make these choices. Organic food is more expensive than conventionally grown food, and it also may not be equally available in all communities. But research suggests that residents of neighborhoods with better access to healthy foods tend to have healthier diets.

Global food industry, climate change and health
The main way in which modern industrialised agriculture affects the environment is through its contribution to climate change. For many years, policy discussions about climate change rarely considered the issue from a public health perspective. Scientists and public health professionals concerned about the health consequences of climate change focused on “getting a seat at the climate table” - in other words, finding a way to get considerations of health effects into the larger discourse on climate change. Over this past year, health has become a much more significant aspect of climate change dialogue in the Europe and around the world.

Projections of climate change effects and existing studies on health indicate that in some ways people, especially children will be disproportionately affected by climate change. For example, because their bodies are less effective at adapting to heat, young children and infants are particularly vulnerable to heat-related illness and death. Climate change may also significantly affect children’s respiratory health. Children’s body weight, the size of their airways, their still-developing lungs, and their level of physical activity make them particularly susceptible to air pollution, and climate change is anticipated to increase the concentration of ozone and particulate matter in the air. Ozone exposure is significantly associated with risk for asthma. Similarly, a recent study showed that young children are exposed to twice as much particulate matter indoors as outdoors, and extreme heat and other climate effects might be expected to increase the amount of time children spend indoors. These and other recent studies point to children’s vulnerability but are not sufficient to quantify their risks in many cases. Although understanding of climate change’s effects on mental health is still developing, it is considered how children might be affected by increased exposure to traumatic, extreme weather events (fires, tor-
nadoes, floods, hurricanes) and their aftermaths (injury, loss of loved ones, displacement from homes and schools). Climate change is also projected to increase the severity and frequency of floods, which may lead to increased risk of exposure to environmental toxins and resulting health outcomes.

Benefits of buying locally grown food:

- **Locally grown food is full of flavour.** When grown locally, the crops are picked at their peak of ripeness versus being harvested early in order to be shipped and distributed to local retail stores. Many times production at local markets has been picked within 24 hours of your purchase.

- **Eating local food is eating seasonally.** Even though we wish strawberries were grown year-round, the best time to eat them is when they can be purchased directly from a local grower. They are full of flavor and taste better than the ones available in the winter that have travelled thousands of miles and picked before they were ripe.

- **Local food has more nutrients.** Local food has a shorter time between harvest and your table, and it is less likely that the nutrient value has decreased. Food imported from far-away states and countries is often older, has travelled and sits in distribution centres before it gets to your store.

- **Local food benefits the environment.** By purchasing locally grown foods you help maintain farmland and green and/or open space in your community.

- **Local foods promote a safer food supply.** The more steps there are between you and your food’s source the more chances there are for contamination. Food grown in distant locations has the potential for food safety issues at harvesting, washing, shipping and distribution.

- **Local growers can tell you how the food was grown.** You can ask what practices they use to raise and harvest the crops. When you know where your food comes from and who grew it, you know a lot more about that food.
References


Chapter 8: Is local and regional food an environmentally friendly food production?

Dr. Indre Butiene

Why buying food locally is better for our environment? What are aspects of global environmental change and how industrial food production contribute to these changes?

Food has always been linked to environmental conditions with production, storage and distribution, and markets are sensitive to weather extremes and climate fluctuations. Food production and quality are also sensitive to the quality of soil and water, the presence of pesticides and other biophysical influences.

The food available to us may do more harm than good - both to our health and to the health of the land and oceans that provide it. At the same time, climate change contributes to extreme weather events that threaten a secure food supply. As individual consumers, and as employees in corporations, we make decisions every day about the food we buy, which gives us great power to reshape the way we produce, process, transport, and use food.

Human health and well-being is a basic human right, and contributes to economic and social development. It fundamentally depends on a stable, functioning ecosystems and a healthy biosphere. These foundations for health are at risk from climate change and ecological degradation.

Human activities, including those related to producing, processing, packaging, distributing, retailing and consuming food, are partly responsible for changing the world’s climate through emissions of greenhouse gases and changes in land use. These activities are also contributing to other aspects of global environmental change, including changes in the physical and biogeochemical environment, either caused naturally or influenced by human activities such as deforestation, fossil fuel consumption, urbanization, land reclamation, agricultural intensification, freshwater extraction, fisheries over-exploitation and waste production. It includes changes in land cover and soils, biochemical cycles and atmospheric composition, biodiversity, climate and extreme weather events, sea level and chemistry alterations, and freshwater quality and availability. Simultaneously, increases in population and wealth are leading to proportionally fewer people producing food; the next few decades are likely to see more conditions contributing to the ‘perfect storm’ caused by the need to simultaneously provide 50% more food, 50% more energy and 30% more fresh water – without further degrading the natural resource base upon which food security largely depends. Furthermore, there is growing concern that global environmental change will threaten food safety, particularly for those more vulnerable populations of global society.

The industrialised farming practices that are tailored to achieve maximum productivity for economic gain led to a myriad of inadvertent environmental costs. Thus, the potential benefits from supporting local networks, instead of buying food which
has been sourced from all over the world, is maybe considered from the environmental, social, economic and health perspectives.

**Fostering a system that maintain sustainability**

A recent movement for the local food have typically been about improving the health of the planet. In environmental terms, benefits may be created through adopting more sustainable production systems that result in smaller externalities to the extent that transportation distance is reduced. This can help to minimise the energy use, or carbon footprint, of the supply chain. Many corporations are already taking steps to improve the environmental impacts of our food system, and environmental organizations are encouraging sustainable farming practices and working towards lowering the system’s carbon footprint.

The rise in the global food market has had tremendous impacts on the Earth. The farming methods characteristic to global industrial farms are known to be directly harmful to the Earth. There is some preliminary research on the role of local or community food systems in improving food system sustainability, but whether community food systems can adequately address the environmental, social and health costs of the global food system is not so well established. The main way in which modern industrialised agriculture affects the environment is through its contribution to climate change. According to Intergovernmental Panel on Climate Change estimates, an agriculture contributes globally in about 10–12% of human-generated greenhouse gas emission. Energy use from fuel and electricity also contributes to greenhouse gas emissions from the agricultural sector. Industrial farms create a great demand for petroleum. It has been reported that nearly 17% of petroleum demand goes towards industrial “mega-farms” for crop production and transportation, producing fertilizers and pesticides, and processing food in order to increase shelf life. Beyond the food production section of the modern food system, the carbon emissions that are generated through transportation of food also present challenges for the current food system. In more intimate farming situations, these sources of petroleum are limited or entirely non-existent. Therefore, the most obvious environmental destruction is related to the consumption of petroleum and its harmful emissions, notably in the ways that food is transported country- or world-wide. For example, food transportation represents over 20 percent of all commodity transport in the United States, and it results in more than 120 million tons of carbon dioxide and greenhouse gas emissions every year. In the atmosphere, these materials contribute to air pollution, global warming and acid rain. Locally food does not need to travel nearly as far from farm the market, so significantly less greenhouse gases are emitted in its transportation. The term ‘food miles’ is a proxy measure for the distance that food travels from paddock to plate, but in fact, the impact of food transport on the environment depends largely on the type of transportation. For instance, carbon emissions generated from food transported by boat are nearly four times lower than the carbon emissions from food transported in large trucks.
Controlling greenhouse gas emissions from food systems has considerable food security and equity implications. Cutting emissions in food systems can be partly achieved through switching to alternative energy sources such as renewables, at least for electricity used in food production, processing and consumption as for pumping irrigation water.

Climate change affects human health in multiple ways: both direct – through extreme weather events, food and water safety impairment and infectious diseases – and indirect – through economic instability, migration and as a driver of conflict.

Recent high profile reports are starting to pay more attention to the links between global environmental changes and food security, especially between climate change and agricultural systems.

### Table 2 Planetary boundaries (adapted from Rockstrom et al, 2009; Tscharntke et al., 2012).

<table>
<thead>
<tr>
<th>Process</th>
<th>Boundary</th>
<th>Examples of food system/security links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity loss</td>
<td>Extinction rate no more than ten species per million per year</td>
<td>Agriculture one major cause of biodiversity loss</td>
</tr>
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<td></td>
<td></td>
<td>Agricultural genetic base needs diversity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Biodiversity enhances resilience of rural poor</td>
</tr>
<tr>
<td>Nitrogen cycle</td>
<td>No more than 35MT per year removed for human use</td>
<td>Agriculture, transport and manufacturing use/produce nitrogen (fertilizer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fisheries degraded by nitrogen runoff</td>
</tr>
<tr>
<td>Phosphorus cycle</td>
<td>No more than 11MT to oceans each year</td>
<td>Agriculture major source of phosphorus pollution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fisheries damaged by phosphorus loading</td>
</tr>
<tr>
<td>Ocean acidification</td>
<td>No more than 2,75 global mean saturation of aragonite in sea water</td>
<td>Agricultural CO₂ emissions contribute to acidification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fisheries degraded by acidification</td>
</tr>
<tr>
<td>Global freshwater use</td>
<td>No more than 4000km³ per year consumption by human activity</td>
<td>Agriculture and food-processing consumer water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food production depends on adequate water and food processing and consumption requires good water quality</td>
</tr>
<tr>
<td>Change in land use</td>
<td>No more than 15 per cent of global land converted to cropland</td>
<td>Agriculture drives land-use conversion</td>
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<td></td>
<td></td>
<td>Forests provide environmental services that include food</td>
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</tbody>
</table>

MT = million tonne
However, the evidences for local food production and environmental benefits are not conclusive. Some life cycle analyses have suggested the carbon footprint from some local foods is higher than the longer chain alternative because they do not benefit from the scale economies of mass production and transportation. Also, purchasing locally can reduce the distance that food travels, but these gains may be offset by the smaller trucks used and lower load factors. Furthermore, the carbon emissions generated by consumers driving to and from food outlets can be greater than those generated from the food production and distribution phases of the current system. Hence, from a purely environmental perspective, local food systems may not significantly reduce emissions from transport, unless very-low-carbon transport systems are used.

Reducing emissions in food transport systems is more difficult, although in some countries delivery vehicles are switching to lower carbon energy. Biofuels, often proposed as a low carbon-energy source, have the problem of competing with food production and may thus reduce food safety while perhaps providing a solution to the climate change problem. However, some biofuels are energy- and land-intensive and may not be provided a low carbon option. Perhaps the greatest challenge is reducing methane emissions from livestock where changes in diet may produce slight reductions but significant reductions are unlikely without reducing the population of ruminants.

The modern agricultural system also affects water resources. First, it diverts water from other potential uses, such as for domestic, industrial, recreational and environmental purposes. Second, agriculture reduces water quality, through pollution by high use of fertilizers and pesticides and through increased sediment and salt loads that occur as a result of soil erosion and increased salinity. It was shown that only between 30% and 50% of nitrogen fertilizers and approximately 45% of phosphorus fertilizer is taken up by crops, leaving the remainder somewhere in the environment. Furthermore, since most production is largely composed of water, it requires constant refrigeration to prevent spoilage. This refrigeration requires extra energy, emitting more carbon dioxide into the atmosphere. Approximately half of the global usable land is used by pastoral or intensive agriculture, but through land degradation, there is now a steady decline in arable land worldwide.

Another potential environmental benefit that can result from shorter food chains that they can use less additional packaging to protect and keep the product fresh during its transportation. As the time between harvest and shelving increases, larger amounts of paper and plastic packaging are needed to keep food fresh, which eventually becomes un-recyclable waste. By far most food packaging materials and processing equipment are made of plastics, or they contain a polymeric layer in direct contact with food like a laminate or coating. Plastics, polymeric laminates and coatings are complex chemical mixtures.

The most obvious form of pollution associated with plastic packaging is wasted plastic sent to landfills. Plastics are very stable and therefore remain in the environment for a long time after they are discarded, especially if they are shielded from direct sunlight by being buried in landfills. Decomposition rates are further decrea-
sed by anti-oxidants that manufacturers commonly add to enhance a container’s resistance to attack by acidic contents.

Industrial farms make a profit by producing large quantities of food, not by protecting the biodiversity of the land. Often, in an attempt to produce massive amounts of one crop, global farms create giant monocultures, cultivating a single organism over a great area and extremely reducing the biodiversity of the land and soil. Industrial agriculture favours using a narrow range of crop species, replacing multistrata vegetation and complex crop patterns, which leads to a loss of structural diversity and causes the fragmentation of native habitats and consequently a decline in animal populations, especially invertebrate consumers, predators and pests. These monocultures can exhaust the soil’s nutrients, eventually forcing these large farms to completely abandon the exhausted land and relies heavily on the use of artificial pesticides to avoid disease and pest damage to crops, which further reduces biodiversity, as they kill wild bees and other species that are not necessarily the target organisms. Many of the genetically uniform high-yielding crop varieties commonly used in modern agriculture are often less resistant to pathogens and pests, making them susceptible to attack by new or adapted parasites, which threatens the sustainability of the current food system.

Besides affecting the environment and the economy, global food has impact on the nutrition products available in the supermarket. Before the specialized mega-farms, crops had to be rotated regularly to prevent nutrient deficient soil. Today, however, industrial farming techniques require little crop rotation, using specialized soil that contains only a few essential nutrients. Yet, plants cannot synthesize minerals that are absent from the soil; consequently, these plants contain an extremely limited nutrient profile. In addition, excessive pesticide use, characteristic to mega-farms, reduces a plant’s ability to take in nutrients from the soil.

Conventional agricultural intensification often results in contamination by pesticides and fertilizers, which can affect human health and create non-target effects on wildlife and functional agrobiodiversity. Massive input of pesticides, herbicides and chemical fertilizers that – besides being dangerous to human health – erode soil, chemically and ecologically alter waterways, deoxygenate large bodies of water, and poison the surrounding ecosystems.

Hence, this globalised food system that promotes competitiveness, devalues personal relationships, discourages connections with nature and with food producers and imposes substantial environmental, social and health costs cannot remain sustainable. None of the environmental costs that come from the production and transport of food are included in the cost of food for the consumer. It will be up to future generations to pay for these hidden externalities of our current, ‘efficient’ agricultural production methods. The most disadvantaged in our communities will be the most vulnerable to these price pressures, so solutions must ensure that current inequities are not exacerbated.
The food available to us may do more harm than good - both to our health, and to the health of the environment that provide it. Buying locally means less fuel burned to transport food, less air, soil and water pollution, less pesticides and fertilizers, less additional packaging and waste and protected biodiversity of the land.
References


Part III: Best practices and lessons learned in local and regional food
Chapter 9: How to use networks successfully in the context of local and regional food production?

Philipp Brinkmann

About this chapter
- You will get a brief introduction to business networks
- You will learn why networks are important for the local and regional food producer
- You will be acquainted with tools that support a successful use of networks

Networks: an introduction
Business networks are unique, highly dynamic and adaptive whilst evolving constantly to suit their individual and organisational needs (Jack 2010). We as scientists tend to simplify our subjects, attempting to convert reality into definitions, figures and models. Therefore, I intend to break down our understanding of business networks using scientific analysis and begin by forming definitions and models to define the subject at hand. At the outset, we can deduce that academic literature commonly distinguishes between vertical and horizontal networks.

Statements of local and regional food producer:
“Networking and business relations had a positive impact on my success”
“I use networks as a part of my business strategy”
“Networks are very important for the success of my company”

Vertical networks: Vertical networks refer to the value chain and include organisations throughout this chain (Christopher 1998). The value chain is a model that describes the entire range of actions required to bring a product from the initial input-supply stage (e.g. seeds) through several phases of production, to its final market destination (e.g a consumer that purchases bread in a bakery) (United Nations Industrial Development Organisation 2009). Through the several phases of production and transformation, value is added to a product. Therefore, you can sell cheese for a higher price than the primary product of milk.
Horizontal networks refer to networks among organisations that are in the same position within the value chain e.g several cheese-manufacturers. Surprisingly, even between rivals, horizontal networks can accomplish cooperative goals forming a mutually beneficial commercial arrangement. This can lead to economic benefits due to risk sharing, know-how exchange, improving product quality or improved innovation processes.

In the present text, this network approach is applied: ‘networks encompass a firm’s set of relationships, both horizontal and vertical, with other organisations – be they suppliers, customers, competitors, or other entities – including relationships across industries and countries’ (Gulati, Nohria & Zaheer 2000; Gulati et al. 2000). This definition highlights the complexity of relationships within business ranging from a focal company to external organisations. In order to analyse and evaluate the relationships among various stakeholders one can graphically visualise network ties. The following illustration represents the network in its entirety (see figure 2b). To picture an industry-sector-specific or topic oriented network (fractional networks) there is an alternative illustration (see fig. 2a). This is a simplistic approach to analysing networks. You will find more information on how to analyse a network in the grey text box.

Figure 1: Idealised value chain of the agri-food system

Figure 2: Visualise Network Ties
The question then arises: why are networks so important for local and regional food producers? Micro-sized food producers like farmers, small-scale food manufactures, caterers or craft producers (bakers, butchers or confectioners) are crucial players in the local and regional food value chain. They produce a gross of the domestic products, contribute to regional culinary heritage as well as to the local community and economy (Quinn et al. 2014). Three out of four food companies in the EU employ less than 10 staff members (Leis, Gijsbers & van der Zee, 2011). These small-scale food producers are important for the regional economy but are confronted with specific problems due to their size. The size related disadvantages of small companies will be discussed in the following paragraphs. Furthermore, we will see the ways in which these kinds of companies have the chance to overcome this weakness through the use of networks.

Micro-sized enterprises (MSEs) operate in a business environment characterised by an increased level of competition, caused by factors such as globalisation (Senauer and Venturini, 2005), reduction of trade barriers (Anderson 2010) and a concentration of food retailers (Stiegert & Kim, 2009; Schlippenbach & Pavel, 2011). Under such conditions MSEs are exposed to increasing pressure particularly with regard to their size-related disadvantages. Furthermore, MSEs often have problems reaping the benefits of globalised markets (Heer & Mann 2010). Various small enterprises in the agri-food sector are unable to cope with the demands of food retailers such as reliable supply, bulk, hygiene and additional quality requirements (Henchion & McIntyre 2005). Due to assumed poor career opportunities, micro-sized companies, particularly craft producers, are unattractive to potential young employees resulting in a lack of skilled workers for available jobs (Buschfeld et al, 2011). Managerial owners of small companies must therefore undertake the role of ‘all-rounders’ with expertise in management, production and regulations (Kelliher & Reinp 2009).

Innovation in forms of products, services and processes are clear indicators of new advancements and are regarded as essential for the success of companies (Lokshin, van Gils & Bauer 2009). Even in larger food enterprises, innovations are comparatively few. The reason for this might be due to the minimal financial investment in research and development (R&D) in the food sector which is highly evident if you compare the food sector with other branches of trade (Costa & Jongen 2006). The capacity for innovation within small companies operating in the agri-food sector is further constrained by limited organisational capabilities, ranging from a lack of strategic development, management deficiency and an absence of clear vision (Scozzi, Garavelli & Crowston 2005). Emphasised by the rapid changes of the business environment, constantly shifting consumer demands as well as the aforemen-

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5 Some parts are taken from a previous publication of the Regfood Project: Brinkmann et al. (2014)
tioned challenges caused by their comparative size, small enterprises come under immense market pressure (Alstrup 2000).

Research indicates that these size related disadvantages of small companies may be overcome through the use of networks (Street and Cameron, 2007) – for example, through the use of networks for innovation (Gellynck and Kühne, 2010), joint marketing using regional food labels (Heer & Mann 2010) and education networks established by various MSEs (Buschfeld et al, 2011). Entrepreneurs can use networks as a means of accessing information, advice and problem solving techniques (Hoang & Antoncic 2003). Participators in networks gain better access to both new technological developments (van de Vrande, Vareska et al. 2009) and accessible resources (Batjargal 2003; Hoang & Antoncic 2003). Furthermore, a review highlighted network benefits such as risk sharing, decreased time to market, pooling of complementary skills and the company’s increased access to external knowledge (Pittaway et al. 2004).

Some authors state that networks have further supporting effects with relation to internationalisation and access to new markets (Musteen, Datta & Butts 2014). Successfully operating in networks is emphasised as a core competence of almost any company (Ritter, Wilkinson & Johnston 2004). Additionally, shared working and collaborative learning, in the context of networks for innovation, is described as challenging but nonetheless highly rewarding in terms of innovations (Gellynck and Kühne, 2010). Thus, utilising networks is one of the key elements of entrepreneurship (Jack 2010) and a review of Street and Cameron (2007) emphasises networks as a key success component for small businesses.

The evidence, regarding the value of business-to-business networks, is exceedingly positive and encouraging (Pittaway et al, 2004). However, business relationships are undoubtedly highly dynamic, unpredictable and discussions can swiftly turn into misunderstandings (Halinen et al, 1999; Dahlin, 2007). Power asymmetry and conflicts among the network partners can lead to challenges and an eventual failure in the function of the network (Doukidis et al. 2007). In the context of the agri-food sector Gellynck and Kühne (2010) state several barriers to innovative networks including the lack in terms of human and financial resources, competition among the network members and reservations regarding networks and their benefits in general. Recent studies indicate that trust, a clear network strategy, previous positive experiences with utilising networks, effective communication and a compatible business culture are beneficial factors that aid in avoiding such problems (Doukidis et al. 2007).

**Network tools**

Many tools and have been developed in order to increase the success of networks. One of which will be exemplified in this text. Links to further tools and learning modules will be provided in addition. The base of many tools is the assumption that
networks have to deal with different problems that can be solved by network managing which is illustrated in figure 3. The network management is centred in the middle of this figure encircled by several tense relationships. These tense relationships can be seen as opposed poles that can be influenced by the network management in one direction or the other.

*Figure 3 Network Management and Tense Relationships*

Based on Sydow 2010; Sydow & Duschek 2013

This toolbox, “Netgrow - Open innovation tools for SMEs, network Managers and policy Makers” is based on research findings and can be obtained via the internet (www.netgrow.eu/toolbox). The overall aim is to increase the innovation within food companies through an improved strategic network behaviour and network learning capacity. The target group are micro, small and medium sized companies belonging to the agro-food value chain. The toolbox provides a set of tools that assist in the decision making process in order to find the right firm’s network. Evidence shows, that many MSEs lack strategic orientation when selecting networks and business contacts, especially during the start-up period. Contacts and networks are not consciously selected, but often tend to arise incidentally. “Learning by doing” is apparent in the context of networks (Brinkmann et al. 2014). Thus, the first step of the netgrow toolbox is a reflective approach that identifies the company’s needs. Several guiding questions provide a basis for the selection of the right network. The questions tend to identify the core activities of the focal company and the types of information necessary to develop the company’s core activity. Further
questions aim to identify the right types of business partners as well as to acquire information and knowledge (Kleforth & Klijwegt 2014). These initial questions provide a good start for strategy planning. They are particularly suitable for small companies as they are time saving and simple to apply. The time factor and simplicity of the test is an important issue, there is a lack of sufficient strategic development and planning in the everyday working process of MSEs caused often by the pressures of time. These concerns are evidenced by statements from a small local and regional food producer, in the grey box beside.

It is important to find the right network but a company’s needs can change over time. Thus, entrepreneurs should evaluate the choice of network from time to time. Again, guiding questions can help to evaluate existing networks such as:

- Are the focal company’s aims superpose to the network’s aims?
- Does the range of activities and services provided by the network accommodate the company’s needs and preferences?
- What kind of activities and services can be obtained by participating in a network?
- Which partners participate with a network? (Kleforth; Klijwegt 2014).

**Statements of local and regional food producer:**

“In the beginning we had no strategy […] We have pursued the possibilities that have come up”

“No strategy; it sounds unbelievable but there is no time for this”

“[We] started the business by accident without any business strategy”

**Conclusion**

Utilising networks is one of the key elements of entrepreneurship and a key success factor for MSEs in the context of local and regional food production. Size related disadvantages of small companies can be overcome through the use of networks. Accordingly, it is important to use strategic network behaviour. There are quick and effective tools that may help entrepreneurs whilst providing an insight in network management approaches for students.
Proposals for further working task:
There are other internet-based tools that provide support to businesses and help them achieve a successful link with networks. If you are interested in the function of networks, you can visit these websites:

Innovationtoolbox: This toolbox can help you to innovate by utilising networks: www.innovationtoolbox.com.au/networking/who-should-be-in-your-network

Open Innovation Toolbox: Open innovation is innovating with business partners by sharing risk and reward. This toolbox assists in process of creating open innovations: http://www.euris-programme.eu/theme/euris/files/media/OL-toolbox_de.pdf

Connect4Action toolbox: Its main purpose is to promote a common dialogue between different network members and individuals coming from a variety of disciplines. http://www.connect4action.eu/toolbox

Questions for later discussion:

• According to your opinion, what are the main competences for successful use of business networks?
• How would you define a successful network?

Summarising the chapter

• Networks involve a firm’s set of relationships, both horizontal and vertical.
• Local and regional food producers operate in a business environment characterised by a high level of competition and increasing pressure, particularly with regard to their size-related disadvantages of micro-sized enterprises (MSEs).
• MSEs may overcome the size-related disadvantages through the use of different networks e.g. networks for innovation, joint marketing using regional food labels and education networks.
• There are various tools supporting a successful use of networks.
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Chapter 10: How to use Storytelling as a tool for regional food promotion

Björn Ylipää

Human beings have always told stories and fascinated by stories - anything from stories about fishing, hunting and life-and-death struggles, to fairy tales with ghosts and goblins. The narrator has an important role in the communication knowledge and craft passed on to future generations. The stories have been conveyed in different ways orally, in writing, figuratively, but also creative, and often in combination. The narrator has an important role in communication and are an important part of the narrative weight, and entertainment. They had to lay off the story and based on a dramaturgy and rhetoric to capture the audience's attention. The storyteller often had a high status and even today bloggers in social media become one of today's storytellers.

Storytelling in Literature and Linguistics

The most common concepts of storytelling is rhetoric, narratology and the theory of meaning. Rhetoric is the art of convincing and the word comes from the Greek verb Reho and means, "I speak fluently." Eloquence is an important part in rhetoric and rhetoric can be used in various ways to convince and how it`s used. (Mossberg 2006) In the rhetoric is often spoken about, it is about the narrator’s body language gestures and posture. (Juhlin, 2002)

Narratology is described as the nature, function and structure of storytelling. Already in ancient Greece, Aristotle described narrative construction as a series of actions or events that form a unit, distinguishing the beginning, middle and end from one another. (Bergsten 2002)

This is still the basic narrative structure, for which the basic elements are:

- **Message** – the moral of the story
  An ideological or moral claim that the story is said to make into a fact. The message is to convey the moral of the story. The message is to be understood and embraced by the audience.

- **Conflict** – good versus evil
  A good story requires something to drive it forward. The audience strives for harmony and balance in their daily lives – we try to maintain that balance and avoid situations that create stress and anxiety. We want to find harmony and balance that push to resolve the conflict and take us from there. This is often were you will find the conflict between good and evil. The greater the conflict, the more dramatic the story can be. However, there are limits beyond which it will turn into chaos.

- **Division of roles** – identification
A prerequisite for being able to identify with the story is that we recognise ourselves in the characters. Through our need to feel balanced in our lives we can have compassion for the characters in the story who are in conflict. Experiencing the sorrow, joy and fear of the characters or persons in question is necessary for us to be able to resolve the conflict.

- **Plot – sequence of events**
  Once the other building blocks are in place it is time to start working on the actual plot. There are various ways to go about this. One way is to take it one step at a time. This requires a tight structure that always leads the audience forward. Another way is to build the story on a beginning, a climax, and an ending – the conflict occurs, the conflict is evaluated, and the conflict is solved. First, a change creates a conflict and shows the direction of the story, which is sharpened at the end and leads to the conclusion. A good story starts by catching our attention and showing us where we are headed. The hero is presented, then the conflict and the villain. The conflict escalates over time, and when it reaches its climax the helper comes in and helps solve the conflict. The moment the conflict is potentially solved is often the same moment as the hero reaches his/her goal and the donor fulfils his/her role. The story slows down which marks the end. One can break the pattern in this chronology through anachrony where, for instance, the story begins in the middle of the plot – “in medias res” – to later include flashbacks and flash-forwards.

It is important to work on these components in detail, ensuring a solid basis for a successful story (Mossberg 2006).

The needs of human beings have evolved like a staircase. The first step involves the most basic physiological survival components of food, water and air. The second step has more to do with security, shelter and stability. Once these needs have been fulfilled, we move to the third step which is about our more social needs of friendship and love. The fourth step is about self-esteem and power, and the fifth and final step is about self-realisation – becoming whatever you want to be. This is based on Maslow’s hierarchy of needs (Grönros 1984). Pine and Gilmore developed this line of argument and incorporated pricing based on this evolution of needs into what is called Experience Economy, by using coffee to describe value based on experience (1999).
Furthermore, the different ways to create experiences instead of selling products and one of the pillars in creating a memorable experience is to stimulate all the senses in the experience. (Pine 1999)

**Storytelling in Marketing**

It has probably been using storytelling for marketing for all times but today has a more developed and produced more efficient ways to use it. Many businesses have the story, so to speak in the trunk and then deliberately started to use it for marketing. This promotion can be internal to all employees in the company, organization or institution or external to the customer. (Mossberg 2006). There are several different types of storytelling in marketing, here are some examples of these

- **Label story**
  This type of story is about the consumer wanting to show their identity, and belong to a group that represents a particular message or lifestyle, for instance. It can be about a brand that sells clothing but trying to create an identity with the brand. In the radio program Conflict in Swedish radio says founder Greger Hagelin of the clothing company WESC.

  "*WE do not sell as much product as an emotion. WE produce a feeling and the customer buys the feeling in the first place.*" (Mossberg 2006)
Another well-known brand that markets its products to the customer enters brand identity is motorcycle brand Harley Davidson.

"Harley-Davidson is our inspiration. But It’s just part of our identity."

"One big happy (very cool) family."

Here are two quotes from the Harley Davidson Financial Service Identity Manual. (2015) By purchasing and using the product, the customer joins a particular identity. Some live in this identity all the time while others may come from entirely different demographic classes but come together when using the product.

- Advertising story
  We are constantly fed ads through mass media and social media, so capturing people’s attention through advertising is becoming more difficult. Advertising stories are therefore increasingly used by companies as tools to get their messages across. In television commercials (such as the ones by the Swedish food chain ICA where you get to follow the staff of a store in their daily lives), the characters are important and the different products are highlighted in such a way that they become extras in the commercial (Mossberg 2006). This particular advertising story has continued for fourteen years and it is still popular. Journalist, Swedish language consultant, and editor at the Centre for Business History Eva Häggmark calls it “a nod to popular culture” (2015).

- Organization story
  This type of story is essentially about creating a culture within a company, and it is mainly directed internally at its employees. Matts Heijbel from the company Storytellers, which works with corporate storytelling and the storytelling in and about organisations in Sweden, says:

  "The stories will offer strategic value carrying emotional events that shows the point of a business even exists. Stories that fits the employee, customer, client, patient, etc. survive quite easily and spread if they carry a true cultural capital." (2015)

A good internal story spreads externally as well, and adds value for the end consumer. The Swedish company IKEA has been truly successful in this regard when telling the story about Ingvar Kamprad, which has then permeated IKEA internally, but also reached the end consumer (Mossberg 2006).

- The story of the story
  This could be a business manager or innovator writing a book about themselves, and how the company or product came to be. The history of
the company, brand or product, can be deepened by telling the story about the person behind it (Mossberg 2006).

• Concept history
Creating a concept based on a story is a common method used in tourism, for example. In Sweden we have several examples of tourist destinations that have been created through literature. The following three novels have in various ways demonstrated how this can happen. The most successful is probably Henning Mankell’s books about the fictional character Wallander that made people want to walk in his footsteps in Ystad, and eat a herring sandwich at a café, just as he did. (Ystad 2015) Another was Jan Guillou’s novels about Arn that created an interest in experiencing the places in the Västra Götaland region that were described in one of the books, and thus, a travel concept was formed. (Praesto 2007) Finally, the novel Popular Music from Vittula by Mikael Niemi resulted in the hospitality industry in Pajala – 100 km north of the Arctic Circle – arranging guided tours to places in the village that are described in the book. A multi-arts performance, based on this story, was also held at various locations in the village (Rantatalo 2004) Theme restaurants and hotels have also been created based on stories. Stylt Trampoli AB has been working with this for 20 years. Internationally, the Hard Rock Café was among the first to create a restaurant based on a theme. (Mossberg 2006)

**Storytelling in food promotion**
The combination of creating experiences that stimulate all the senses are used in different ways in marketing. The sensory analysis is an instrument to measure and describe the sensory experience of various food products. There are several different types of tests are used as contrast test, profile test and preference test used primarily for product development and quality of a food product. (Gustafsson 2014) In an essay in Kristianstad University examined how to describe the taste of wild game. Wild game meat is often a positive image in terms of choice of meat but how do you describe the taste? Student came to the following results through a qualitative research by interviewing chefs and others who have a special interest in the game and food. The overall taste of wild game meat that came up in the survey was the acidity, characterful taste of blood, characteristic metallic taste, full-bodied flavor with the character of forest, sulfur odor. (Floengård 2012) These descriptive terms can be very static. Another slant on the sensory research based on the finding descriptive words with which to communicate food product characteristics, thereby approaching the experience to promote their products.

"Crispy salad with peppery, slightly nutty tone. Ideal as seasoning in salad blends, particularly good for Mediterranean cuisine and tasty dishes."
Taste description on the bag of rocket salad. (Gustafsson 2014)
Anders Herdenstam (2011) discusses this in his thesis “Den arbetande gommen – vinprovarens dubbla grepp från analys till upplevelse” (The working palate – the wine-taster’s dual approach from analysis to experience). He believes that sensory analysis allows us to measure certain aspects, but to find out how the product is perceived, it must be placed in its context. Another approach within sensory research is based on finding descriptive words to communicate the properties of the food product, thereby promoting the product by describing the experience (Herdenstam 2011). Herdenstam’s thesis also explains how the representation of a product creates an understanding of the experience. He shows how a wine-taster, aiming for sensory representation, captures the experience beyond what is described in words.

Anders Herdenstam shows in his dissertation on how the design creates an understanding of what they are experiencing the research is focused on how winetaster with creative approaches in their expression captures the experience beyond the word being described. He complains also how the sensory analysis is often done in engineered standardized environment and experience can be wildly different from each product is perceived for the end consumer. The sensory analysis laboratory has its limitations you have to put the product in its context and how it is perceived in which it is consumed. This is where the scientific methods of measurability and the artistic expression of the dual grip.

Can you measure a dining experience?
Illustrating two approaches to knowledge

![Diagram: The dual grip (Herdenstam 2011)](image)

**Figure 2: The dual grip (Herdenstam 2011)**

**Storytelling by food**
How do you combine food and drink with storytelling? Is there a practical way of using these knowledge perspectives? Most commonly, they are used to provide
sensory descriptions of for example food products, where the story explains why it is perceived in a certain way: it could be the produce from which the product originates, the processing procedure, but also the person behind creating the product. Within tourism, a common way to promote a destination is to use specific produce, processed products or local dishes, to convey a flavour of the place. The last few years have seen still other marketing methods, used to capture the feeling of a region or destination with food and drink. Using food and drink to communicate is primarily concerned with the purpose and what you want to say and to whom. What are you promoting? And who is behind the product – a region, city, country, farm or other specific place, product or person? It is also important to know the context in which the marketing will take place, for instance at corporate events or trade fairs. It could also be in the actual place where the food product is produced or at local markets, shops, etc. Nowadays, there is also research within sensory marketing.

“Sensory marketing is about how companies can use different sensory strategies to build and establish a brand image that is linked to the customer’s identity, lifestyle and personality. A company should therefore consciously and strategically base their marketing on the five human senses.” (Hultén 2008)

In recent years, companies have emerged in the Nordic region which have applied the dual approach of science and artistic representation into their practices. The Swedish company Måltidsvision was one of the first to develop the storytelling by food approach.

"Storytelling by food adds the senses that research shows are most strongly linked to our memories: taste and odor. And through the whole experience of the meal, we tell your story."

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**Figure 3: Sensory Marketing - a model. Hultén (2008)**

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"Our mission is to in a unique way and through an artistic presentation using food and drink to communicate messages and create commitment."
Black (2015)

Måltidsvision have not deliberately worked according to Herdenstam’s model “Det dubbla greppet” (The dual approach). Based on the academic background of a scientific approach using sensory analysis, an experience-theoretical perspective, experiences and artistic practices, they use food, drink and entire meals as communicative tools. Pine, Gilmore and Hulten argue that if all your senses are stimulated, you will have a broader and more extensive set of tools to communicate messages and create extraordinary experiences. Måltidsvision’s clients range from the Swedish government to hospitality companies that want to market Sweden and places to visit. What distinguishes Måltidsvision from other players is their overall perspective and storytelling approach. Through their work, they try to capture the feeling of what the client wants to convey.

"We looked up from the plate and started creating" (Ylipää Abrahamsson 2015).

Often when their assignment is to promote Sweden as a tourist destination in Europe, they try to convey its uniqueness by highlighting Sweden’s seasons and traditions. The Swedish city of Umeå became the European Capital of Culture in 2014, and to prepare for such a title and to create awareness, the project ‘Caught by Umeå’ was launched on behalf of VisitSweden and the tourist office of Umeå, which welcomed all of Europe to take part in the design of Umeå2014. In addition to the core team of Umeå2014/Umé municipality, VisitSweden, H+K Strategies and Baluba, the project also included Umeå University, Samelandsresor, ICEHOTEL, Sámi Duodji and Måltidsvision.

Måltidsvision created a dining experience based on the eight Sami seasons. This did not only involve food, but was about capturing the feeling of the different seasons. Their unique distinctions were highlighted by stimulating the senses throughout the meal. Early spring: going to a mountain lake, drilling holes and fishing through a one metre thick layer of ice. Two people dressed in white entered carrying two trays with spoons. They proceeded to the two seven-feet high and two feet wide ice pillars with drilled holes in the sides. They placed the spoons in the holes, leaving only the handles sticking out. One of them gave a brief introduction and greeted the guests to the Northern Room of Umeå2014, and welcomed guests to come up and have a spoonful of char that had been caught in a mountain lake, been carefully prepared, and finally returned to its water.
Early spring – the season of awakening
*Light is returning and icicles drip tears of joy. Through holes in the frozen mountain lake the first fish of the year are caught. Tartar of char on ice pillar. Melt ice water.*
(Måltidsvision 2013)

How to use storytelling by food as a tool for promotion.
There are many paths to choose to use storytelling with food and drink in marketing. It is important to who and where will the marketing take place, what would you tell them? If the story can be found, or do you have to create it. The figure below shows how to funnel it down to the level that you want to promote. From one region to an individual perspective.

![Baltic Sea Region](image)

Figure 4. Funneling model for storytelling (own model)
You can also tell the story about how the product was created, or if the food culture of the region, or about the people behind the product or the specific location of the product. You can also add flavor to an existing story and thereby use storytelling by food. Food, drinks and the meal is the only marketing tool that stimulates all the senses. You have an opportunity to communicate "between the lines"

Questions and Tips

• What do I tell them?
• For whom should I tell?
• How can I use the story in marketing?
• Should I create a story based on the sensory analyzes?
• Should I try to capture the feeling in my narrative?
• Is there an existing history that I can use?
• Develop a "five-word-pitch"
• Implement the story in the activities of staff decor, ads, etc.
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Chapter 11: Learning from each other: Learning in Cooperations and Networks

Andreas Dietrich/Britta Will

Summary: Learning in cooperations and networks is an increasingly important aspect of local, regional, and also transnational cooperation and is meanwhile scientifically analyzed. Learning from and with each other can take place in different kind of forms, but should be carefully organized and arranged. The project team of the REGFOOD project, which is an international and interdisciplinary one, and also the local partners and players in the field of food production and its marketing, are facing this challenge.

Great importance is currently ascribed to learning in cooperations and networks in the national economy, the regional development, the private communication and interaction, but also in the field of further education and especially in the vocational education. REGFOOD is also a networking project, in which the international partners shall and have to learn from and with each other to stimulate innovations in the field of food production and its marketing and to develop and test qualification concepts for students and vocational qualified employees. In the following the focus will more be on the networking and learning aspects.

Next to aims of rather economics of education and education policy issues, e.g. the better allocation of resources for the further vocational training, which are discussed in networks, will strengthen the regional structure by networking and cooperation of the participants on the one hand. On the other hand these forms of cooperation, individual and collective learning processes shall be initialized and supported. Networks are often the result of successful cooperation. However, the boundaries of these two organizational forms are fluent. Therefore it is necessary to differentiate the two terms. Cooperation’s are characterized by the goal-oriented, collaborative work of the participating players to optimize the achievement of the joint project.

PAYER (2008) describes six characterizing attributes. (1) Clarity - The co-operation is limited to a number of subscribers and they are known to each other. (2) Joint action on the basis of assumptions and expectations - Each cooperating actor hopes to take advantage of the joint collaborative work and thus a higher achievement on it. (3) Mutuality - each partner contributes equally into the cooperation. (4) Expertise - Each partner brings their strengths of competencies, knowledge, skills and experience into the cooperation. (5) Autonomy - a fusion of the partners involved is never intended, each partner retains its economic and financial independence. (6) Individual logic of action - Cooperation act on the basis of agreed rules and limits.

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Therefore cooperation can develop their own and individual social structures that can grow, shrink or is able to resolve completely. However, the main aim of cooperation is always the common benefits of collaboration. Rises the complexity of the cooperation design, so called meta-cooperation can grow. This meta collaboration can easily turn into network and meet attributes (such as Expertise, Autonomy, etc.) of cooperation. But both organizational Ideas need to be differed. GRAMLINGER (2002) define networks as: „a number of nodes and the quantity of connections running between them. The nodes and the connections are common features of all network definitions. Nodes – understood to be actors – can be both individuals and groups (corporate actors) such as companies, associations, ministries or even countries. […] The connections link the nodes together and represent an affiliation or relationship.” Therefore Networks are more loosely connected work collaborations than cooperation work environments, as described above. The criteria of cooperation described above may be transmitted on networks, but both forms of organization differ. Thus, the binding of the actors in networks is considerably looser than in cooperation, which has implications for the mutual bond (economically and socially, etc.) but also on liabilities (contracts, agreements, etc.). Cooperations are therefore significantly more restrictive than networks. However, this also depends on the rules agreed between partners. In project REGFOOD the boundaries between collaboration and network are fluent. The project organization indicates a collaboration related cooperation regarding the objectives and content for project implementation. One of the key project goals is in the first step to create and develop a national network of the national actors in the food sector better and then to link those national networks to a cross-border network in the South Baltic Region. The resulting network is primarily intended to serve the future-oriented knowledge exchange and transfer in the field of regional and local food. Innovation and development always demands reflecting and rethinking of structures, models and practices but also expects learning. Although, networks and cooperations can be distinguished from each other by certain structural features, they can nevertheless be integrated as an example for other open forms of vocational learning that means, as a special case of learning in informal processes or rather at settings which are not primarily created to fulfil the aim of learning. Therefore, these learning

11 Text is based on DIETTRICH (2015)
12 cf. e.g. GRAMLINGER (2002)
13 cf. MÜNCH (1982)
processes usually are no institutionalized teaching or learning settings, that means no organized development of competences according to educational and didactical criteria. However, the central element here is that learning, as individual learning, is not in the focus, but the collective and cooperative learning of the participants on the basis of a common interest to solve problems and collective reflected and assimilated experience and areas of knowledge. That means cooperation in networks is essential for the successful implementation of learning processes – different experience additionally proves that the degree of cooperation and trust between the participants has a positive impact on the learning environment and the success of learning. So that there definitely is room for cooperation, that means a secure „space“ just visible and usable for participants of the network in which people act and learn together. This space of cooperation is characterized by structures and norms, which are worked out together, such as rules for cooperation. Generally there is the question of how to draw an outline or the identifiability of the space of cooperation in networks: rooms for cooperation can be especially established in social networks as cyberspace. However, there is the question, which has to be discussed controversially, whether and in how far e.g. social learning is possible in cyberspace or how these spaces have to be designed e.g. in the framework of „Communities of Practice“. In the following statements demilitation of the room of communication shall be described not according to virtual but real criteria. The focus will be more on regions – here the southern region of the Baltic states, the partners from Denmark, Germany, Lithuania and Sweden, and regional networks and cooperations. Currently, there is a broad social agreement on the handling of the consequences of the social political and economical change and also the coping with these changes that shall and has to be dealt with more and more in a regional context. The point is to develop regional, innovative solutions for social problems, which occur in different countries of the world, and to activate a great amount of regional players for this, and to establish an appropriate context for learning and working, to combine individual knowledge and experience for the development of innovative action concepts, e.g. in the context of local and regional produced food. To put it in a nutshell, an area of conflict develops between regionalization and globalization, or the search for regional answers to international challenges. With regional action strategies the participants are facing the different challenges in the fields of education and qualification in particular and its consequences which are resulting from internationalization and globalisation. These are therefore the antipole of the international opening in the sense of a protection or development of regional identities. Particular generated instruments of regional networking and the cooperation of the participants have therefore a social and political function. In this context it has to be critically mentioned that the political importance of networks is currently developing „away from a basic democratic idea to its functional usability.“

14 e.g. SCHEFF (1999)
and therefore, there is the danger of a highly technocratic view.\textsuperscript{15} That means that not cooperation or participation assesses the „worth“ of a network but its contribution to e.g. a specified aim that shall be reached concerning matters of education policy. This becomes clear e.g. by having a look at the regulation of projects and programms, by the EU regarding its expertise and content. From the the point of view of the vocational education and business and economics education in particular it is very important to use regional networking structures for the individual determination of position and further development or social participation of every learner in further education courses and vocational education. Hence, networks and cooperations are often regarded as starting point and aim for activities in the context of lifelong learning process in the fields of adult education or vocational education. In the context of numerous networks for learning, developing competences, qualification and education but also in cooperations for further education, learning from each other or learning and communication platforms rise currently to initiate and stabilise learning processes on a regional, national and transnational basis. The given plurality of nations is rather irritating than giving a clue. Corresponding funding programmes, financed by the federal states, federal government or the EU, pick up the network idea and contribute to initiation, continuity and evaluation of networks and cooperations. Macro-regional strategies such EUBSR aimed at the development of macro-regions and indicate the region adjusted objectives. Key action point is the common development of the region.\textsuperscript{16} Social networks can be regarded as a social form for organisation and cooperation between the models, regulation with the help of the market‘ and ‚regulation by bureaucracy‘. Central characteristics are e.g. interdependent contacts between the players, no centralized decision function and the existence of a thematical structure or the aim to work on certain tasks together. A great advantage of networks is lying in the „creative and interdisciplinary cooperation“ of the players in particular, but also in the possible division of work and specialisation, as it is also done in the REGFOOD project. In the field of research of networks it turned out that a high intensity of interaction, trust between the participants, a high level of self-

\addcontentsline{toc}{section}{References}

\textsuperscript{15} SCHÄFFTER, O. (2001)

\textsuperscript{16} Cf. LENT (2013), p.106.
organization by the participants and a professional network management or network moderation have to be taken for granted in a good-working network, that means an active, self-determined and self-organized form of cooperation. In connection to the importance for vocational education and further education and lifelong learning can be distinguished between networks with the prior purpose of the development of competences and qualification or networks with more social and political aims. The first ones are characterized by its focusing on learning, qualification and education. The quality of learning is fundamentally supported by new learning setting and cultures of learning. 

The explicit aim of the participants of this network is learning, while, in networks with rather social or economical aims, the learning processes usually occur by chance while working together in the network than to be intended. If you have a closer look at the first group of networks, they can conduce to generate better learning opportunities. Networks are regarded as a form of organisation which contribute to e.g a fall of transaction costs, and cooperation of the different participants of the network, so that on a regional, but also transnational level learning opportunities can be developed, according to demand (dimension of organisation). This dimension is to be found in the REGFOOD project e.g. in the carried out pilot-course for students but also in the following anthology. The partners contribute their expertise, such as food technology for the new educational program and create, therefore, added value for all stakeholders. On the other hand networks can be regarded as learning setting or form of learning, in which different methods and forms of learning can be connected at different locations (dimension of learning). The Internet and the technical possibilities of ICT are offering a variety of tools and methods for boundless communication and cooperation. Which are suitable for working and learning together in networks that has to be examined, tested, evaluated and reflected. For instance when like in REGFOOD a common curriculum is developed and a common course design has to be implemented in the partner institutions. The step of testing, evaluation and reflecting is necessary to proof the results. These new didactical and methodical possibilities are in high tension of the continuous development and rapid essentially determined by the dynamics of technological developments. This is a didactic-methodological challenge for working in networks that means which instruments are suitable for the common objective of networking, is a very individual question of working together. Hence, the individual and vocational interests of the network participants are in the centre of the network project. To share experience and to learn from and with each other is very important for the network participants here. According to this, learning is highly oriented on experience and is connected to organized learning to a certain degree which varies. That means networks make it possible to weight formal and informal learning according to the needs of the participants and therefore, also a combination of different types of „rooms“. Occasions for communication and cooperation offer starting points for informal


learning, while a corresponding moderation e.g. with the help of a structured exchange of experience and space for feedback, which enable the participants to reflect their own actions and a development and testing of new models of behaviour. However, the individuals have to have or have to develop certain dispositions, the needs social and communicative competences to actual being able to use the offered possibilities for learning for themselves, to support participation with the established rooms for cooperation and make communication and does not lead to social polarisation. A lot of workshops, which have been carried out and the internal project meetings are next to the usage of different means of communication (especially e-mails and Skype) make up this learning settings in the project, in which the participants are learning from and with each other. However, this is not an automatically process, but is connected to certain problems concerning communication (language), culture, expertise and hierarchy which have to be overcome by the participants. At this point the need of trust becomes very important for a successful cooperation in the network.

It is possible to differentiate between three essential superordinate forms of learning by having a closer look at the dimensions of learning in the network, which can vary according to their concrete arrangement of the networks, its intensity and order:

- Learning in the social context, which is built on the interaction of the participants concerning the work on shared problems in the network and which leads to unconscious effects concerning learning and experience. The room of cooperation enables, determines and limits the actual possibilities of learning in the social context.

Formal learning means learning which takes place in an organised and structured environment, specifically dedicated to learning, and typically leads to the award of a qualification, usually in the form of a certificate or a diploma; it includes systems of general education, initial vocational training and higher education;

Informal learning means learning resulting from daily activities related to work, family or leisure and is not organized or structured in terms of objectives, time or learning support; it may be unintentional from the learner’s perspective; examples of learning outcomes acquired through informal learning are skills acquired through life and work experiences, project management skills or ICT skills acquired at work, languages learned and intercultural skills acquired during a stay in another country, ICT skills acquired outside work, skills acquired through volunteering, cultural activities, sports, youth work and through activities at home (e.g. taking care of a child);

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20 Cf. DIETTRICH/ELSHOLZ (2007)
• Learning, which is conciously initiated by an individual by using the knowledge of the other participants and the frame conditions in the form of material to cover his subjective or collective defined needs for life. The room of communication brings motivation and starting points for individual induced learning experience of the network participants for starting points and contents of learning for every individual, in the sense of the identification of viable knowledge.

• Formalized learning which takes place to some extent in didactically arranged learning settings, based on an explicit formulated demand for learning and further education. In networks it is often put into practise with the help of additional workshops and seminars, continuous working partnerships, transfer of employees or also in classical seminars. Here, the room of cooperation is more a plattform for the organisation of formal learning for the network participants.

All three forms are therefore using the special features of cooperation in the network. The suggested differentiations serve indeed as a rather scientific cognitive interest to systematize networks. In practice network projects, as in the REGFOOD project, can have more than one dimension, the existing typology of networks can be hard to identify or the forms of learning can chance very fast or cannot be explicitly realized.

But these differentiations also serve as suggestions for the actions and arrangements in the context of a developing project, e.g. for the South Baltic Region, which shall be formulated. Because networks for learning and education in particular, have potential for qualification in vocational occupations or the realization of occupational tasks also in the field of food - to a great extent includes the work in different networks today. There is the question of how learning in networks can be further improved and professionalized by methodical intervention and therefore, the question of the arrangement or design of the cooperation room. The implementing of networks this methodical dimension is often not enough taken into consideration with the result that learning processes are not supported to this extent, that it would be posible and desireable, what also leads to a lack of quality. The expectations that learning automatically leads to a working growth of competences in the field of vocational education often lead to frustration for the participants because of missing requirements. Certain didactical and pedagogical approaches are needed and to be tested, that means a framework with similar conditions have to be worked out for informal and more experience oriented possibilities of learning is absolutely necessary.

In this process it has to be clarified which demands for learning there are, which requirements are needed and which problems are there in participant point of view.


22 DIETTRICH, A. (2010)

In addition the framework for learning has to be observed continuously. On the basis of aims of learning settings for teaching and learning have to be developed, carried out, evaluated and modified in the network afterwards. Those people who are taking over the task of moderation have to be sure about the methodical and didactical profession. There has to be a balance between the possibilities of formal and informal learning in the sense of the suggested forms of learning, which has to be kept. In addition it has to be avoided that the more open forms of learning by intervention of the learning settings, are too much formalized and just like learning at school because this would lead to a one-sided limitation of the potential of the cooperation A certain concept of learning has to be dynamic, flexible and oriented on the participants.

The aims for learning and development or its steps to reach them have to be fixed together with the participants in the network and to work out suitable combinations of forms for learning and teaching and to establish them. Innovative and individual concepts are required. Each network is therefore faced with the question which teaching-learning arrangements promise the best added value. Not least, the possibilities of ICT offer a variety of opportunities to learn and work in learning and teaching networks and to design a target group related source. ICT tools such as Learning platforms, applications, etc., or the social networks offer modern solutions for mutual, cross-border learning activities. This mutual teaching and learning arrangements can be designed as face-to-face or e-learning arrangements or of cause in a mixture of both. Nowadays the variety is diverse. In the case of the REGFOOD project it can be asserted that the perspective to arrange the cooperation as learning with each other could not be put into practice, as it has been desired. There would have been more potential.

The initialization of regional cooperations and culture of learning has to be strongly oriented on the national, regional and local but also on an individual and working framework and can just be successfully implemented in the context of a decentralization, which enables development and implementation by strategies, which also supports bottom-up-processes. In the field of network research it is meanwhile empirically proofed that networks which were induced because of a loan program and which have local top-down-strategies as a consequence, are less successful working and rather of a short existence, than a continuous development of networking strategies out of the regional problems, which are possibly officially fund with joint developing projects, which develop with the help of the regional players and with the inclusion of the relevant partners. Hence, the question whether the the established networks in the REGFOOD project are going on is not yet clarified. After the exiration of founding just a few cooperations are going on. The definition of the development of networks has not to be regarded as lineal but as collected. Phases of cooperative construction follow phases of testing, of evaluation and modifica-

24 Cf. WILL (2013), p. 120 p.

25 SCHULDT (2002)
tion. However, the room of cooperation is always to be determined and arranged by the participants.

Regional structures of networking and learning are, also in the southern area of the Baltic states, highly differentiated and require ‘customized’, most of the time modified concepts according to the regional specifications to be able to cope with the individual needs of the participants. The differences between the REGFOOD partners can not just be realized by their regional and or national characteristics, but also by because of their belonging to different vocational and scientific fields. On the level of processes the task of moderation in the region or here in the network seems to be quite important. One has to look for the existence of continuous moderated interaction an reflexion, while in the context of learning and education networks moderation can have a didactic or „teaching“ or „learning oriented“ function not in the sense of instruction but as establishment of beneficial working and communication contexts, or the support of formal and informal learning, in particular, in the network (e.g. arrangements of workshops and meetings which benefits learning)[26] and it is therefore also the task of moderation, which the network participants have to support with the development, arrangement, and further development, but also with the limitation of the cooperation room. The participants and partners in the REGFOOD project have, without a doubt, learnt a lot from and with each other.

From our point of view a stronger didactic perspective with the initiation of with a stronger emphasis on social learning international cooperation projects would have been helpful and beneficial for the development of the project. Finally, the transfer of the results of the project, that means the aimed dissemination of the project results by the sponsors, works with the help of less formal structures or media but often with the help of the personal communication between people who talk about experience and therefore, about things they have learnt together. It is clear that the „content of learning“ in the REGFOOD project, the production and marketing of local and regional food with all their advantages is still very important e.g for the ecological economy and also for the health care management in the South Baltic Countries just like the starting point of the REGFOOD project, that means the development of qualification with the help of transnational and innovative concepts and interdisciplinary cooperation and learning partnerships.

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Part IV: Cases
Chapter 12: Local Food and Industrial Large Scale Production

Andreas Håkansson

Many local and regional food consumers state their intention to support local communities as the motivation behind buying local or regional food. This chapter compares this view to an economic perspective of what creates value and prosperity in a community. The economic perspective is generally less optimistic of the benefits of local or small scale production. However, as seen towards the end of the chapter, local and regional food producers still have an important role to play on the food market by adopting suitable strategies.

There has been a forceful drive towards local and regional foods during the last decade, as has been discussed at length in the preceding chapters. This can be described as an increase in the demand for regionally or locally - and often small scale - produced food over globalized industrial large scale food production. The drive towards local and regional food in the South Baltic Region has also received support from governments and the EU through the support for research projects, regional development funds and through promoting local food among its citizens.

The growing emphasis on local and regional foods is not without its critics, especially when it comes to government support for local food over conventional food production, see Desrochers and Shimizu (2012) for a comprehensive review. It could be argued that all publically funded support of specific goods is a way of forcing citizens to participate in the consumption of that good, regardless of their personal preferences. Given that all government activities are funded by taxes, even consumers without an interest in local food are contributing to government promotion campaigns. If local and regional food does offer substantial objective advantages over conventional food products, this could be justified; this is how we often motivate publically funded campaigns, for example, against smoking and binge drinking. As previously discussed, consumers state a variety of reasons for consuming local foods: they perceive it as healthier, tastier and more environmentally friendly. However, there is no scientific consensus on locally produced food actually having these effects. Studies show no evidence for local food being more nutritious or ethical than conventional food (Edward-Jones, 2010; Desrochers & Shimizu, 2012). Furthermore, the distance between food producer and consumer is a poor measure of environmental impact (Edward-Jones et al., 2008). Producing food closer to the consumer will reduce the “food mileage”, but distance between producer and consumer needs not be the determining factor. Long-distance transport in freighter ships has a much lower per kilometer and per kilogram food emission footprint than short-distance transport on half-full trucks or in the cars of individual consumers. Life-cycle analysis, attempting to take all relevant factors into account, even shows that large scale production with lengthy transport can lead to lower
emission levels than local food production in relevant cases (Schlich & Fleissner, 2005).

Another common motivation for buying local is that it supposedly supports the local community. Consumers wish to support local farmers and businesses, and thereby the local economy.

This chapter will explore to what extent buying local and regional food is a meaningful way of supporting the local community from an economic perspective. Furthermore, the implications on local and regional food production will be discussed. However, before drawing any conclusions we must first start very generally and discuss the differences between self-sufficiency and markets, and the effect of trade and specialization.

![Figure 1. Good versus Evil? Regional sausages produced in small scale (left), and industrially produced candy bars (right).](image)

### Comparative advantages and the story of Ask and Embla

Allow me to introduce Ask and Embla, two isolated individuals living in a very remote part of the South-Baltic region\(^{27}\). They know only two foods, potatoes and fish. Both Ask and Embla would, if possible, like to eat both fish and potatoes every day. Basically, they have two options, either Ask and Embla both work half their time as farmers growing potatoes and half as fishermen, or each specialize in one and trade with one another. If Ask is better than Embla at growing potatoes (i.e. he can either harvest more potatoes per hour spent in growing them, and/or the

\(^{27}\) Yes, this will be one of what Marx (1887) spitefully referred to as the “Robinsonades” of economics… The most famous example of using “Robinsonades” for making this argument is the bow maker/hunter example from Smith (1776).
potatoes produced are perceived as having higher quality) and Embla is better than Ask at fishing, it is advantageous for both to specialize in their field of expertise. If Ask grows potatoes and Embla fishes, the total amount of food produced per day would be larger than if each attempted to be self-sufficient. Alternatively, they could spend less time on producing food and more time in leisure. By trading they could then distribute the potatoes and fish between one another according to whatever principle they decide and enjoy both potatoes and fish. In the hypothetical situation described, Embla and Ask have what economics calls absolute advantages in fish and potatoes respectively. It is easy to understand the advantage of each in specializing in their field of absolute advantage and then trade. Ask has no reason spending an hour fishing when he could instead obtain more fish by growing potatoes and trading it for fish with Embla and, equivalently, Embla has no reason growing potatoes when she can obtain them more easily by trading for them using fish. The same reasoning can be applied to argue the mutual advantage for both Swedes and Costa Ricans in, respectively, specializing in apples and sugarcane and trading, instead of both attempting to be self-sufficient in the two goods: Swedes can obtain more and better quality sugar by producing apples and trading them for sugarcane-sugar and Costa Ricans can obtain more apples by trading for them by producing sugar.

However, what if Embla was better than Ask at both growing potatoes and fishing? What would be most beneficial method of production then? It can be shown that both could still be made better off by specializing in one of the activities. Let us, in order to be less abstract, assume that Embla can grow 10 potatoes when Ask can grow 8 and that Embla can catch 10 fish to Ask’s 4. Note that Embla has absolute advantages in both goods. However, she is relatively better at fishing than at growing potatoes in comparison with Ask, therefore she has what economists refer to as a comparative advantage in fishing. If Ask and Embla specialize in their respective fields of comparative advantages they will together produce 10 fish and 8 potatoes, and this is the maximum amount of food they could collectively produce. As a comparison, if each of them spent half the day at each activity, they would produce 9 (10/2 + 8/2) potatoes and 7 fish (10/2 + 4/2). It is a good exercise to try other alternative ways of allocating their time and ensure that there is no other option that gives a larger total production. In summary, even if one of them is better than the other in every field of work, there is an opportunity for both to be made better off by specializing and trading in comparison to remaining self-sufficient.

What implications does this now have on local and regional food production? Now assume that Ask lives in rural Latin America and Embla in a South-Baltic city. In Embla’s city, there is an old university, renowned for advances in paper technology and in Ask’s community there is long experience of sugar cane production. Embla and her co-citizens demand sugar for their coffee and have two alternatives, either they buy sugar cane sugar from producers in Ask’s community, or buy sugar beet sugar locally. Would Embla support her local community by buying local? According to the discussion above, the answer is no. Embla’s community has a
comparative advantage in high technology paper products (e.g. diapers, printed electronics, sanitary pads etc.) and Ask’s community has a comparative advantage in sugar production – note that this is true even if the farmers outside of Embla’s town would actually be able to produce sugar at a lower cost than the producers in Ask’s community (compare to the example of Ask and Embla producing potatoes and fish). Therefore, both communities could be made better off by specializing and trading. From this perspective, Embla would actually risk harming her local community and economy by buying locally. More people could be employed in the paper technology if fewer worked in farming, and, since the paper products can be traded at a higher price, it allows Embla’s community to obtain more of the goods the citizens value, or, alternatively, allow them to work less. Ask and his community have even more to gain from specialization and trade since it can be assumed that their material standard of living is lower; obtaining more and better quality food could have an important effect on life expectancy and child mortality, and consequently have objectively beneficial effects for the citizens there. Ask and his countrymen would obtain more resources for their community by producing goods in which they have a comparative advantage than if they tried to start their own advanced paper technology industry. The extra resources obtained by specializing in sugar cane production can be used in any way they see fit: increasing consumption, for expanding the education sector, or for advancing the sugar cane industry to make it even more competitive for the future, for example by expanding it into biotechnological production using sugar cane as substrates. It could even be argued that the high technology paper industry in Embla’s country has arisen from such expansions of the once low-technology lumber industry.

Unemployment and creative destruction

The perspective offered in the previous section is contrary to conventional wisdom, and some would even go so far as to describe it as contrary to empirical evidence. Wherein lies this contradiction? For Embla, this is rather obvious. If she and her countrymen decide to buy their sugar from Ask and not from the local farmers, the local farmers will experience a decrease in the demand for their products, and local food prices will decrease until farmers can no longer make a living out of farming and eventually will have to leave the agricultural sector altogether. They might be forced to sell the farm where they have lived for generations, ending up without employment. This is probably what Embla is trying to prevent by buying local.

The economist Joseph Schumpeter (1883-1950) has described this consequence of specialization and trade as creative destruction. It is “destruction” since it destroys old sectors of production, making old knowledge obsolete or forcing people into unemployment, yet it is also “creative”, since it is the underlying driving force in changing production systems towards higher-end products that allow improved standards of living. The unemployed farmer can move to the city and get a job in the factories of the paper industry and, instead of becoming farmers, his sons and

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28 It is often believed that work time continues to increase in our modern specialized and industrialized world, however, empirical evidence clearly show a continuous increase in leisure over work in modern societies with high degrees of specialization (Rones et al., 1997; Håkansson, 2014).
daughters can study at university to become the highly-skilled engineers needed in paper technology. Schumpeter, and many contemporary economists, therefore argue that although the short-term effects of not buying local might seem harsh, it is economically advantageous in the long run. It should be emphasized, however, that the term “advantageous” does not necessarily equal increased profit, higher wages or even more money to the local community, but rather a situation where consumers themselves subjectively describe themselves as better off. The technical term is “economic efficiency” and is defined as a state where no single individual can be made (subjectively) better off without someone else becoming worse off. Economic historians often argue that the creative destruction of feudal agriculture in Europe and the flow of people to the emerging industries in the 1700-1800s was one of the most significant driving forces for understanding the subsequent increased standards of living (e.g. decrease in child mortality and increase in life expectancy) (Rosenberg & Birdzell, 1987; Clark, 2009).

**What is the use of large scale food production?**

Comparative advantages and creative destruction explain why communities could have much to gain, at least in the long run, from specializing and trading instead of buying locally. But then again, does this also explain why food production must be carried out in the large industrial scale we have become used to?

Large scale production has economic advantages. This could be partly understood by returning to the story of Ask and Embla and the value of specialization. Large scale production allows workers to specialize in small tasks. Each worker can become a specialist in this small task and perform it more effectively than if they were forced to be a generalist, knowing a little about everything. Economists describe this as the effect of *economics of scale*, meaning that the cost per unit produced, or the quality of each unit at fixed cost, can increase if firms are larger. This might stem from cost reduction, e.g. from buying raw-materials in bulk, from having a proportionally smaller division for marketing, human resources or management. Larger firms also have the possibility to fund and drive large scale innovation projects, which could give advantages in more cost-effective or quality-consistent processing.

There are several specific examples of where large scale food processing can result in higher quality products due to the technological sophistication of processes employed. Notable examples (Fellows, 2009) are high temperature pasteurization which is more effective against pathogens yet less harmful to vitamins than the pasteurization that can be obtained using small scale equipment. Another example is in freezing technology. Industrial freezing often preserves food structure better than home freezing due to the lower temperatures and faster freezing methods employed in comparison to home freezers.

**Monopolization of the food market**

Many local and regional food advocates agree that economies of scale effects reduce production costs, however, they often argue that the reduced cost is not always carried on to the consumer. The advantage of large scale processing would then
mainly benefit the owners of these large scale food industries rather than consumers.

Assuming that the food market is fully competitive, each producer will set prices marginally above the production cost. Any producer setting a higher price will be out-competed and any producer setting a lower price will make heavy losses and eventually go bankrupt. Accordingly, the question as to whatever cost savings of large scale industries are advantageous to consumers is a question of the extent to which the food market is truly competitive. When producers become sufficiently large, they risk creating something close to a monopoly – becoming the sole provider of a good or service on a market. A monopolist will claim the entire value of the cost reductions themselves since they lack the competitive pressure to lower prices accordingly. The potential for increasing profit by growing large and becoming monopolistic was realized by many US firms in the early 1900s. Firms such as Standard Oil and Carnegie Steel, through mergers, became dominant in their respective industries and tried to leverage their size in setting monopoly prices (Rosenberg & Birdzell, 1987). However, it has been argued (Scherer, 1980) that they were never successful in this, a sufficient number of new entrants were always there to apply competitive pressure, and the profits these large trusts made were largely due to cost reduction through economics of scale rather than through exercising monopoly power.

Just as in oil and steel markets in the early 1900s, modern food production and retail have large firms. However, as long as there is a sufficiently number of smaller firms to challenge them, it could be argued that they would not be able to use their size in order to exercise monopoly power, but rather in cutting costs through economics of scale. In that case, in large scale production, the associated cost cuts translate directly into lower consumer prices or higher quality at constant prices, which must be considered good news for consumers.

**The good news**

When having read thus far in the chapter, local and regional small scale food production does not seem very advantageous from an economic perspective, yet it would be a mistake to interpret this as being that economists perceive no value whatsoever in local and regional food producers.

Classical economics put a large emphasis on the consumer’s right to decide what they prefer, without placing any judgement in terms of needs or what is beneficial for societies as a whole. In addition, economists often see producers as highly responsive to consumer demands. Therefore, if consumers value local food because they perceive it as more nutritious or beneficial to the local economy, producers will provide it and economics will pass no moral judgement.

Economists have also identified some objective advantages and niches for the type of producer usually associated with local and regional food. Large scale production and specialization offers, from a business management perspective, some challenges, particularly to agriculture. A self-employed craftsman has greater incentive in working hard than a worker employed and paid an hourly wage. Interests might
differ between workers attempting to conserve energy for more fulfilling leisure activities and their employers, who are trying to make them work harder to increase output or quality. Employers have traditionally solved this by monitoring workers. However, this is more difficult in agriculture than in other areas because of the considerable geographical area agricultural workers are dispersed over in large scale farming. Organizing agriculture through small self-owning farms could thus be beneficial from a societal perspective.

A more compelling (and more modern) argument for the importance of small scale processing is that these firms can be better suited to fill important strategic gaps that are less accessible to larger firms. The cost reduction offered by large scale industrial production is only one of the three classical business strategies originally asserted by Porter (1980). A strategy more suitable for small scale producers is differentiation. The large firms obtain their cost advantage by producing in large scale, hence, they will focus on large consumer groups and widely demanded products. This often leaves smaller niche markets unserved. Smaller firms therefore can step in and offer goods and services to these smaller groups. By supplying specialized goods closely adapted to what the specific segment requests, the distance between what the individual consumer demands and what the firm supplies can be reduced, making consumers willing to pay higher prices. This allows smaller firms to survive without having the low production costs of larger firms. Local and regional food can be seen as a niche market for consumers who put value in buying directly from small producers, and adhering to a differentiation strategy thus offers a compelling option for this sector.

As the local and regional food trend shows us, sometimes what that starts out as a small niche market may grow to be so successful that it significantly influences larger firms. If the demand for local and regional food continues to increase, it might bring about the creative destruction of the industrial food producers and globalized food industry, at least in affluent parts of the world where many consumers could afford the subsequent marked increase in food cost.

More realistically, large scale industrial production and small scale local and regional food production will continue to co-exist, since they both have their advantages and disadvantages in the eyes of the consumer. Consumers are rarely able or to, or interested in, determining the long-term effects of their consumption choices, and there are no apparent reasons why the pessimistic view of the economic perspective should influence the growth of the market for local or regional food.

**Summarizing the economic perspective**

In summary, economic analysis offers little support for the view that buying local or regional food does have an objectively positive effect on the local economy. In fact, it could be argued that the effect is reversed. Specialization in the sector of comparative advantage (i.e. high technology production for many South-Baltic regions) and trading for food produced on an industrial scale, should according to this perspective, hold higher potential for giving us more and/or higher quality food than promoting local and regional food production.
However, from an economic perspective, no moral judgement is passed on consumers demanding local and regional food. The fact that demand for local and regional food exists creates potential for small producers to be successful in the food market, especially when adopting a differentiation strategy, focusing at delivering products that meet the demand of this niche market.

- From an economic perspective, buying locally is not always advantageous for the local communities. Consumers and producers could be made better off by specializing in their field of competitive advantage and trading to obtain other goods and services.
- Large scale processing offers the possibilities of reducing prices at and/or increased quality. As long as food markets are competitive, this results in lower food prices for consumers, or higher quality at constant prices.
- Despite the objections raised, small scale local and regional food producers have a gap to fill in modern food markets, particularly by adopting differentiation strategies and serving demands from niche markets left unserved by larger firms.
References


Chapter 13: Networking and Quality work among local food producers in Scania, Sweden

Bitte Müller-Hansen

The legal requirements for quality assurance in the food industry are harder than for many other types of businesses. How do all these small producers manage to fulfil the legal requirements of quality assurance? In food industry, it is a tradition to work in cooperatives. Many of these have in recent years become so great that several of them have been sold to other larger groups of companies.

Instead we can see other kind of networks starting to emerge among the food producers. What benefit can the small food producers get from their networks, can they be to some help in quality work for these small food producing companies?

A quality model, the Kano model was used as a frame of reference when 6 smaller food producers with different types of production were interviewed. Traditionally, food producers in Northern Europe seem to be more interested in quality assurance and food safety. Quality aspects such as regional origin and flavour have been considered as higher valued in southern Europe.

In this study we could see a different pattern where the entrepreneurs interviewed valued the importance of delivering what in the Kano model is called "attractive quality" and that the legal requirements of quality assurance systems were just seen as “must-be quality” that wasn’t enough to give customer satisfaction.

Quality and customer satisfaction, quality from different perspectives.

One definition of Quality is the one that Bergman & Klefsjö (2007) uses:
"The quality of a product is its ability to satisfy and preferably exceed, customer needs and expectations" (s.26)

As it is the customers’ expectations that decides what quality is, we must identify our customers and their needs. In the chain from producer to consumer we have customers in several steps. According to Björklund et al (De lokala matproducenterna och daglivaruhandeln, 2008) the small food producers has to respond to various needs from wholesalers, some form of certification and logistics solutions with e-commerce. The customers’ needs and expectations according to Lundqvist (Lokal och regional mat, En studie om konsumenters, producerers och handles inställning och erfarenhet av lokal och regional mat, 2004), on regional products was primarily that it would taste good, be fresh, high quality, be healthy and being produced in Sweden.
Quality work among producers must first include the identification of which customer segments to work against and then from there, to work with quality development. As Bergman & Klefsjö (Kvalitet från behov till användning, 2007) puts it, the organization should find the answer to the question: who are their customers and to whom creates a value.

How the customers react to various quality dimensions can be illustrated by a model called the Kano model (Kano, Seraku, Fumio, & Tsuji, 1996). The Kano model (see figure 1) explains the difference between customers’ different needs and how they affect customer satisfaction related to degree of fulfillment. The bottom curve of The Kano model shows the basic needs. They are not pronounced but is expected to be satisfied anyway. For food producers it’s subjects such as food safety. You should not become sick from the food you buy. The customer is not satisfied when the basic needs are met, but very unhappy if they are not. This quality element is also known as “must-be quality”.

The next type of need is the stated requirements, what you order. If I would like to have a ripe cheese and ask for it so I’ll be satisfied when I taste that it is ripe and dissatisfied if it is mild. A direct link between fulfillment and satisfaction is showed in The Kano model here. This quality element is called “one-dimensional quality”.

Top curve in The Kano model shows requirements that the customer is not aware of, there’s something unexpectedly positive that the customer receives. An example of this may be that the customer who’s buying the cheese can see cows on the pasture, the cows that gave milk to the cheese they bought. They see how healthy the cows looks and have a positive experience. If the customers don’t receive this “attractive quality” they are not dissatisfied, but very satisfied if they receive it.

Figure 1 The Kano model (Kano, Seraku, Fumio, & Tsuji, 1996)
So if the producers understand their customers’ different needs it seems to be the base for customer satisfaction.
Outlook in Europe

There are theories that the very concept of quality is different in Northern and southern parts of Europe. So argues for example Parrott, Wilson & Murdoch (Spatializing Quality: Regional Protection and the Alternative Geography of Food, 2002) that the northern parts of Europe mostly focus their quality work on food safety and public health in the light of the BSE and other scandals. In southern Europe; Italy, Spain, Portugal and France on the other hand, we appreciate more the regional origin and the specific taste depending on "terroir". In the southern part of Europe they has also long used special designations for various regional products with special quality requirements. In France since 1918 the brand AOC that means Appellation d’Origine Controllée, on wines originally but now on all kind of food. The tradition of such markings were, according to Parrott and others (Spatializing Quality: Regional Protection and the Alternative Geography of Food, 2002), the reason that the EU in 1993 introduced two different labels of origin, Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI). Among the countries of southern Europe that had a tradition of these labels on their products, these EU markings become popular, however, among the countries of Northern Europe, it is still a few countries that have applied for these labels to any great extent, according to official EU material (Advisory Group International Aspect of Agriculture, 2012).

By comparison had Sweden 1 registered name in 2000, 2 in 2003 and today 5. This way of labelling and preserve food products may not be just a good thing says American scientists Bowen & Master (New rural livelihoods och museums of production? Quality food initiatives in practice, 2011) as they indicate that these markings can preserve older methods of production, quote: ”these certification schemes also necessarily freeze production technique’s” (s. 77)

Voices from local food producers in Scania, Sweden

Let’s listen to six voices from local food producers from Southern Sweden. The questions are used in another RegFood work (Brinkmann, 2014), but now the answers will be mirrored to the theories of Quality and networking.

Presentation of the producers and their companies

Justusjuice. Apple Orchard with fruit and Berry processing, beverages, dining, food, hiking, B&B, bakery, etc. Julia started when she and her husband bought the property in the first place as a residence, but later discovered the potential. Daughter Juliette went on an education in food and meal science and contributed ideas and knowledge. The company has been around for about 4 years, Julia has had other food-related missions with a lot of networking for about 15 years. They sell their products of their shop in the restaurant and through other channels.
**Ko-diary.** Kornelia started a year ago when she wanted to change direction in her working life. She lacked certain dairy products from her home country and was also interested in producing organic products after having a baby. Only Kornelia herself is employed in the company, she has participated in a one-year education in small-scale food production. Kornelia practiced networking a lot during her studies and has continued in that way. Sale is in her shop into the dairy where customers can see the process, as well as through shops in the neighbourhood and other farm shops.

**Lauritz Mustard.** Lauritz has a farm where he also refines what he cultivates, formerly spices but now mainly production of mustard from home-grown mustard seed. A farm shop since the last few years with one employee except for the family. Lauritz started 20 years ago and has been active in networking for the last 15 years. Selling in their own farm shop and through various retailers, other farm shops.

**Mummy’s sausage.** Marielle and Malin started a catering company already while studying at higher education in the area of food and meal science. At the end of the study period they made their concept of a company for sausage production and sales through a homely restaurant with a special concept. Already during the study period they started intensive networking which was the background to start the company in city of their studies despite the fact that both came from other cities before the studies. Sales at the counter in the restaurant and through resellers in their network.

**Nickyhoney.** Nicky has been involved in beekeeping with honey since childhood but began with membership in a honey producer’s network in 1972. He has been very active in this Organization for many years in different positions but are now beginning to downsize his operations by age reasons. The company have most been a part-time job alongside other work. Sales at home "at the door", in markets and through stores in the neighbourhood.

**Olofs Farm.** Olof breed pigs, sheep and cows together with partners (beef cattle). At the farm of includes 700Ha they are also cultivating among others: grain and grass seeds. Olof have built up his networks for several years, as a student at boarding school, as agricultural student on a few large estates in Scania, as a student in Lund, United States, and Denmark as well as trainee within a global company. When he became 40, he started his own business in order to work with the values he stands for where good animal husbandry is vital. Sales through selected shops and market halls.
Customer knowledge that can provide customer satisfaction.

To see how food manufacturers meet more specific customer requirements and also can meet unconscious needs, companies must know who are their customers. It is, after all, quality defined in the concept of the vendor to satisfy customers' needs (Bergman & Klefsjö, 2007). The following questions should examine whether food producers were aware of who their customers are and how they work with customer satisfaction.

"What are your biggest consumer groups?"
Julia replied that it was middle aged quality and nature enthusiasts without children and young nature enthusiasts without children. She reflected herself that children were not represented but concluded that there was less money in families with children. Kornelia had two different customer groups identified: on the one hand, customers from her former homeland which recognized the dairy products that she produced. The second customer group was conscious food lover families, a lot of families with children who were concerned about what the children ate.

“Asking about what the cows eat. Taste of everything and makes sure that children should taste. Children are curious and interested.”

Even middle-age customers, large width of customer group, but it is customers who are not price-sensitive.
Lauritz has customers who have made an active choice. They don't buy his mustard because they are out of it in the refrigerator, they would have a relationship to the product, knowing the field where the seed has grown.

“The important is the story of the mustard, the background and the relationship. The customer wants an experience beyond the ordinary.”

Customers at Mummys Sausages are foodies. They have a lot of guests from Denmark, many of them have summer houses in the neighborhood and seems to have another food culture, are more curious. Even customers from major cities in the region such as Malmö. Not too many from the nearest, smaller city.
Nickyhoney traditionally had most middle-aged and older among its customers but in recent years had TV chefs made honey trendy so they had acquired a new group of customers there.
Olof had three target groups; the wealthy middle-ages, those who care about animal welfare and the foodies that:
“The skip paying their rent just to be able to by a cutlet from us.”
"How do you work with customer relations?"
Kornelia has received more attention during her first year than she thought. Would like to work more structured with customer relations. She is often at markets and show her products, but do not believe in ads.
Lauritz has many small customers, other farm shops, which are the same size. The customers become more like friends. Have short lines of communication, direct communication and a high level of service, it also provides a competitive advantage.
Mummy’s Sausages says: Our customers appreciate very much the personal touch, to tell them me how we have done, to tell them when we were in France, we tell and tell and educate, but not everybody appreciate it.

Nicky meets a lot of customers in markets where he can provide information about their products, why different honey has a different color, customers don’t get that information in regular stores. Combine sales with talking about beekeeping, showing up a beehive maybe.
Olofs Farm are working with social media and have a high transparency.

Summary analysis
When it comes to customers, it appears that these food producers had a clear view of who was their customer groups and why their customers bought products from them. In these answers you can see that many also understood that customers wanted their “Attractive Quality” and that it was these needs the producers worked with to satisfy by showing how they work and talk about their production. The word "attractive quality" according to The Kano model was not used by any of those interviewed but still they worked in that way.
The distinction made between producers in Southern and Northern Europe doesn’t seems to fit in here. What we see here among these producers is that it is the factors of origin and the taste of the artisan work that their customers value.

Networking and the advantage of it.
Smaller food producers often organizing themselves in different types of network and interacting with other companies have historically proved to be a success factor (Borg, 2005). A number of questions attempted to identify how this is affecting these food producers. What do they think of as networks?

"Whom are your main suppliers"?
Julia has a neighbour that picks the apples in Julia's orchid and then delivers the juice, bottled and labeled. A few different suppliers of flour for different needs, some more conventional mills as well as a small "museum mill" run by volunteers.
Kornelia’s main supplier is the farm that deliver her milk, a very good cooperation she says.
Lauritz produces the mustards seed himself but has other local suppliers to the ingredients. In product development they use mostly local ingredients, if they cant get local producers perhaps the don’t fulfill the project.
Mummys sausage use a local providers which in turn interacts with other local producers and distributes their products, “Bondens skafferi”. They are very satisfied with the service provider but also has contact with some local farms that can deliver meat, including wild game meat from the nearby castle.

Nickyhoney has his bees as its primary suppliers but purchase packaging, wax and winter food for bees (sugar) by external suppliers.

The own farm products, is the raw materials for Olof’s Farm. Then deliveries from approved slaughterhouses because they are too small to have its own.

"What are your primary production partners (sub-contractors, co-owner of production equipment, other business partners with whom you collaborate in the production of goods and services)?"

Justusjuice has a partner working with birch sap to whom Justusjuice also is part-owner, a brewer which refines the birch sap to beer and another juice producer that are both vendor and customer.

Kornelia has some equipment along with her milk supplier, in order to produce butter.

Lauritz grow the most raw materials but says:
*If we buy vinegar from someone, they will be interested in getting mustard made with their vinegar. In this way we will get strong connections with each other.*

Mummys sausage send recipes on their sausages to a producer who makes the sausages after their recipes.

"What are your primary production partners (sub-contractors, co-owner of production equipment, other business partners with whom you collaborate in the production of goods and services)?"

Justusjuice have had cooperation in some years with suppliers who have been verbally. Now increases the production and they are going to have a more formalized cooperation. When it comes to their products with alcohol, it requires formal written agreement.

Kornelia has no formal agreement with her largest supplier, they have verbal agreements that are developed as production is extended.

Lauritz has no written contract, either to buy or sell. Everything is based on trust.

"A handshake is a handshake in this world of regional producers."

For Olof is the basic structure for cooperation that there has to be fundamental values that are the same. Ambitious partners with the same core values. Olofs Farm interact with many different types of companies to deliver experience products to their customers.

"How formalized is your collaboration with your business partners?"

Mummys sausage has no contract, they are trying to just show up where things happen and make connections.
Nicky is a member of the honey procusers organization and with their company “Honungsförädlingen” have written contracts. Olofs Farm do write a kind of cooperation agreement, which he knows would not be sufficient in the court, but he wants a clear structure for the cooperation. Important is that the parties involved have the same vision. Often his business is based on personal contacts and he also point out the importance of the handshake.

"Are you members of a formal business collaboration or network?"
Organizations mentioned here in the various responses were: The Federation of Swedish Farmers (LRF), The Rural Economy and Agricultural Societies (Hushållningssällskapet), Culinary Heritage, Transformat at Krinova Science Park, some Facebook group, The distributer “Bondens skafferi”, Culinarium (Matrundan), Shortcut Österlen (Genväg Österlen), The organization of Honeyproducers (Biodlarföreningen) and certainly more that one didn't remeber during the interview. Several companies said that these organizations did not offer much help, but that they had contacts with other producers and then could do projects together with those you met in the organization. Some network was good for the credibility and from some you had magazines that was interesting. I noted that a Facebook group also was seen as a formal network.

"How often do you use this network?"
For some, it was seasonal, for others it was contacts every day. Some found it difficult to give an answer because it was done spontaneously at the time.

"How much you rely on this networks/business relationships? (Consider what would happen if you lost this cooperation or this relationship.)"
Justusjuice would have lost part of their profile if they only had larger suppliers. Kornelia says she has thought about it and it would have been a problem, but she didn’t had to close her business. She'd been looking for someone else. Lauritz also says that it would be sad, but he can’t lose all at the same time. Not as if delivered to the ICA (a big wholesale) 100%.
Mummys sausage is very keen on its network but if they are losing someone there are others left.
Nicky is not worried:
"Demand is still as great as it is utopian, there is a deficit of honey."

Olof has worked abroad before and built up similar network so he knows he can do it again.

**Summary analysis**
It turned out to be many different types of network and producers were connected with a variety of strong ties.
The various networks were important and in many cases it was very close cooperation with the partners, but no one felt entirely dependent on their networks. It would
go to build up new again if the current disappeared, but it would be sad to lose good relations and contacts. Really formalized networks as food producers traditionally built up according to Borg (Den skånska livsmedelsindustrin - projektrapport inom Skånes industriella arv, 2005) appeared to be only for the beekeeper in their nationwide organization with the spun-off company "Honungsförädlingen". Where the producers joined the more traditional networks as LRF, it was in order to receive benefits as magasins and cheaper insurance for example, not directly to develop their business.

On the other hand, there were many looser forms of cooperation based more on "a handshake" or a group on social media for contacts across the country as in a new industry like farm dairies. There are many ideas of what is considered to be a network.

The utility of the networks were in several cases a help to sell each other's products. You can see that smaller food producers are working on different networks in different stages of the value chain. Networking was also a way of marketing

**Quality requirements that are mandatory**

"Quality" in this case are more the basic needs in Must-be quality in the The Kano model, such requirements on food safety the National Food Agency has legislation on. Where the wholesalers sometimes puts on higher quality requirements, these requirements can be like within the one-dimensional needs in The Kano models. How did the producers work with this demand?

"Do you cooperate in your network with regards to quality control and HACCP for example?"

Julia says: no, we have cooperation with those who already have HACCP.

Kornelia had different kinds of interaction here: On her education, she was helped and was taught the basics but said: you need to read a lot yourself or enlist the help of a consultant. One of the teachers on her education has good networks and has helped her. The more formal network “Gårdsmejeristgruppen” was as confused as she herself about the legislation.

Lauritz mustard tried to form his own system, mostly on his own.

Mummys sausage don’t think it difficult, but some of their partners they’ve got to help a bit.

Nickyhoney used to have some help from their organization and the guidelines from the National Food Agency.

**Summary analysis**

We see that the work with the mandatory quality requirements looks very different. For those with a strong organization as beekeepers, there is a good formal cooperation with current authority. Their organization also developed guidelines. For a new and sensitive industry as dairies where some smaller dairies just started, it's been a
problem with the fact that no one really knows how to read the requierments. Most of the producers don’t need any help with this.

- Local food producers in this area of Sweden tend to see the contact with the consumers as a vital point of their business. What do you think is the benefit of that?
- Branding local food with labels as PDO and PGI is popular in southern part of Europe. Not doing that in the northern part of Europe is that bad or can it be good? How do you think about that?
- Studies have found that small scale producers don’t use Quality tools for developing their business. Are there other ways they can work developing their business? Have you found any examples of that in this chapter, if so, what?
References


Chapter 14: Microbreweries in Denmark
Authors: Sarah Østergaard Brandt & Birthe Kaføed Mortensen

Summary: The large breweries in Denmark have existed in more than 150 years. The industry has in recent 10 years experienced a true beer revolution where local entrepreneurs created more than 100 microbreweries, so today there are about 120 breweries in Denmark. One of the reasons why so many microbreweries are experiencing success is because of the large breweries high willingness to share their present knowledge and newest research with the microbreweries. Another reason is the Danish consumers’ curiosity, interest and willingness to buy special beers brewed with raw materials from the local nature. One of these special beers is the hay beer from Herslev Brewery, called Mark Hø. The story of the brewery and the beer will be elaborated in this chapter.

The brewery industry in Denmark
Denmark has a long history of brewing beer. The brewery Carlsberg – the largest brewery in Denmark and a popular global beer brand – has brewed beer in Denmark for nearly 170 years. The founder of Carlsberg JC Jacobsen has since the beginning had a commitment to research and he established the Carlsberg Laboratory in 1875, to develop a complete scientific understanding of the malting, brewing and fermentation processes. In the laboratory various grain species and yeasts were studied and Jacobsen insisted that any findings should be given freely to the whole brewing industry (Carlsberggroup.com, 2015). This spirit is still present in the Carlsberg Group today and there is a high willingness to share their present knowledge with microbreweries. It is a great advantage for the microbreweries to benefit from Carlsberg’s great experience and the newest research. The Carlsberg Group has for example a great knowledge about different yeasts and their properties, which is of great importance to microbreweries.

Together with the long history of brewing beers the Danes also have a long history of consuming beers. But despite a growing interest in beer production and microbreweries among the consumers, the Danish brewing industry faces hard times ahead. The problem is simply that the Danes are drinking less beer than ever before. In 2013 an analysis from the Danish Agriculture and Food Council showed that the Danes on average consume 20 per cent less beer than just ten years earlier. In addition, the analysis indicates that beer consumption will fall by seven percent over the next five years (Erlandsen, 2012).
A decline in beer sales is with cause bad news for the brewing industry but the development of the beer market can be reversed to the positive for some breweries, if they manage to exploit the new consumption pattern. The analysis from the Danish Agriculture and Food Council furthermore revealed that there has been a polarization of the beer market. Previously, there was a very strong center segment, which consisted of the classic beer brands like Carlsberg and Royal Unibrew. But now it seems that they have lost their hold on the Danes, while specialty beer and discount beer increase their market share (Erlandsen, 2012). In the recent 10 years a beer revolution played out and the development of the microbreweries is only just started according to The Danish Brewers’ Association. There were 1106 new beers on the market in 2014 from 120 breweries, which is a steep increase compared to ten years earlier, in 2004, where there were 84 new beers on the market (Olesen, 2015a). The trends at the microbreweries go in three directions; 1) everything is possible. Whether it is the ingredients, the type of beer or the brewing process the entrepreneurs experience with, the consumers accept it 2) organic farming is gaining ground and 3) a search of Danish identity and closeness. The breweries find flavorings in the surrounding nature and create beers with a local taste (Andersen, 2014).

Danish Beer Enthusiasts (DBE) is a national member association for individuals as well as beer clubs interested in beer. DBE was founded in 1998 in the city of Odense on Funen. DBE is an independent consumer organization working for the promotion and spread of knowledge of good quality beer. According to registration through DBE there are around 115 breweries in Denmark (both small and big breweries are listed). Some of the microbreweries have most likely been closed again, since the latest count in 2014, but the exact number cannot be specified. In the region of Zealand there are around 20 small breweries and two large breweries; Harboe and Faxe.

- **Carlsberg Breweries A/S**
  Founded in 1847. In 1970 Carlsberg merged with Tuborg, another popular Danish beer brand founded in 1875.

- **Royal Unibrew**
  A merger of Albani, which was founded in 1859 and Faxe, which was founded in 1901. The second largest multi-beverage business in Denmark

- **Harboe Group**
  Founded in 1883, known for its discount beers. The production is situated in the south west of Zealand.
One of the microbreweries on Zealand, Herslev Brewery, will be presented as a case of a locale and innovative small enterprise with great success. In 2014 RegFood researchers conducted an interview with the owner of Herslev Brewery and statements from this interview will be used in the following.

**Herslev Brewery**

Herslev Brewery is located on the farm Toftegaard in the village Herslev. The brewery was established in 2004 and at the moment they are eight employees. The brewery has since January 2013 exclusively produced organic beer. 30 hectares was in 2013 converted to organic farming, and under the restructuring period the brewery was provided with grain from an organic farmer in the local area. The harvest in August 2014 was the first organic production from the brewery's own fields. Everything they produce, the beer, the vinegar and the snaps starts with the grain (barley is the main ingredient). The beer is the main productions, while the vinegar and the snaps are only small productions. Other small specialties are sold from the farm shop; malt syrup made of beer and grain, and flour, milled while you are waiting. The grain for flour production is bought from a local-regional-mill. They have an intension to grow on this area.

The key words for Herslev Brewery are quality, pure organic ingredients and traceability in the production. They work constantly to have a production with least possible environmental impact and use resources such as water and energy wisely (Herslevbryghus.dk, 2015). The marketing and sale are placed on the same location as the brewery as well.

**The story of Mark Hø**

Herslev Brewery is an example of a brewery that has worked innovative with the locale produce. In 2014 they were the first to introduce a new type of beer on the market; the hay beer. The beer is brewed on hay instead of hop and wild yeast,
which gives its characteristics of being sour and fresh and without bitterness from the hop. The name of the beer is Mark Hø. The Danish word Mark represents the terroir of Herslev; the brewery and the raw materials from locale area, but also the spirit and the culture of the employees at the brewery.

“When I started the company in 2004 my ambition was to brew the beer and sell it myself. The company grew and in 2009 a strategic meeting took place to take a decision about which way to develop the company. In 2009 I was quiet satisfied about the company and the size of the company. The employees turned out to be very ambitious and wanted the company to grow. So I decided after consideration to follow the wishes of the employees to make grow of the company. The production and sale of beers increases with 25 % a year. We want to focus on the quality of the beer, but not only on the products but quality in the whole chain. It is a very ideological project.”

The owner talks about his ambitious and ideological employees, whom are the main reason for the success today. The farm is, besides being the center of the development and production of the beer, also a place where the consumers can come and buy the beer, or participate in events.

“Our main production is beer. Everything we do is in order to sell more beer. Four Saturdays in January 2014 the customer could come to the brewery and buy a meal and drink a beer. Everything we do, we do in order to get the customer closer to the brewery, to sell more beer. ... It is to support the brand in order to sell more beer. Instead of producing the beer cheaper and cheaper, we seek to give more value to the beer and the brand in order to have more profit selling beer.”

The owner arranges events in order to support the brand of the beers and it is a way of telling the story about Herslev Brewery. An event could be to visit the brewery and get an introduction to the history of the brewery, while being served a meal prepared from locale produce, and enjoying one of the beers from the brewery. The events do not provide the owner with profit, but it serves to promote the brand of the beers and the brewery.

As it was mentioned earlier in this chapter, Herslev Brewery is competing with around 120 other breweries in Denmark and around 1000 new beers on the market every year. So how can Herslev Brewery be different from the others? One way is to be creative and develop innovative beers like the hay beer. Among the 1000 new beers on the market, Mark Hø was one of the ten nominated beers competing for the best new beer in 2014 (Olesen, 2015b). Another way is the choice of the market. The beers from Herslev Brewery are intended to compete with wine, which is why the owner arranges events like the above mentioned, and it is why the beers mainly are sold to restaurants and bars. Some microbreweries try to establish a market in the supermarkets, but the owner of Herslev Brewery has experienced that the breweries have been forced to lower the price on the beer. This is not an option on Herslev Brewery.

“We want our beer to compete with wine, that’s why we serve food to the beer. We want to avoid the press on the price of the beer. The beer is excellent if you serve excellent food to the beer..."
Authenticity is very important to us. The food to the meal is bought locally, it is also important for us.”

Challenges
One challenge that the brewery had to face in the innovative phase of producing a beer with hay was the EU legislation on novel foods. Authorization and use of novel foods and food ingredients was harmonized in the European Union in 1997, meaning that novel food is food not consumed to a significant degree in the European Union prior to May 1997 (The European Union, 1997). Hay appears on the list of novel foods and after correspondence with the Danish Ministry of Food, it was decided that Herslev Brewery had to prepare a report documenting that hay was consumed in the European Union before 1997.

An EU regulation, like the above mentioned, impedes innovation and growth in the food industry, especially for the small entrepreneurs, who may not have qualified employees for these kinds of tasks. It is a very bureaucratic system, yet the employees at Herslev Brewery managed to provide the needed documentation and get their hay beer approved. The owner has stated in the Danish press that the process has been frustrating and surprising at the same time, because something as natural as hay can cause problems. This is also one of the reasons why the owner has included their customers and collaborators in the whole process by asking for advice on Facebook and making the final report public on the brewery’s webpage.

Summarizing the chapter
- Denmark has a long history of brewing beers and the Danish breweries have existed in more than 150 years.
- A true beer revolution took place in Denmark in the recent 10 years, where around 100 microbreweries were established.
- Herslev Brewery (established in 2004) is one of the microbreweries that have experienced great success, based on authenticity, innovation and hard work.
- The beer Mark Hø is Herslev Brewery’s most innovative beer. It is a beer brewed on hay and with ingredients exclusively from Herslev, thus a beer that tastes of Herslev – its Terroir.
- One of the challenges of being innovative is the struggle with authorities and the EU regulations.
References


Chapter 15: Regional Added Value – A Case Study of a Company in Mecklenburg-West Pomerania

Philipp Brinkmann; Janet Martens

The results, which are presented here, are based on an interview that has been conducted in order to analyse micro sized companies in 2014. The investigated company is located in the northeast of Germany. It serves as an example for many producers, who produce food for the regional or local market. By having a look at the description of this type of business, characteristic patterns become obvious. That shows a comparison with other results that arose in the context of the Regfood project (e.g. Brinkmann et al. 2014).

The company occupies less than ten employees. It was founded in the 1990s, shortly after the German reunification, as a classical agricultural holding. Bit by bit poultry farming and its manufacture emerged to the core business of the company. The company is active along the whole value added chain starting with the farming to the manufacture ending with direct. The wide range of tasks in the field of poultry farming and its marketing are predominantly based on internal activities of the company, which go along with a high expenditure of time. In addition to the production of food, renting of holiday flats and holiday accommodation has developed to an important source of income for the company in the middle of the 90s. The extension of the offering leads to certain synergistic effects e.g. the possibilities of marketing of the own products to holiday guests, or the rise of the degree of popularity.

The bigger part of the products are sold in a farm shop and by concession trailers. In addition, several small groceries offer fresh meat and sausage of the company throughout the year. Especially, at Christmas time the sale of fresh meat rises: “occasionally customers drive up to 150 km in order to buy a goose from our farm.” Furthermore, small farmers and private breeders are provided with living animals and feeding stuff. A special concession trailer is also used for this.

To rise the degree of reputation, the products of the poultry farm are offered at special markets and food festivals. However, this distribution channel is rather an exception limited to a few events. They are taking place in the near surrounding of the company. The manufacturer sums up: “We realize our popularity in area close by. The sale is rising in these places, more than outside of the region. We are not selling the products with a low price, but with our popularity. Costumers, who know the products and its quality, buy our food.” That is the reason why there is no supra-regional marketing. For the food producer it is important that the consumers see where their food actually comes from. Direct contact to people and transparency are necessary for this. Regular
customers were won by „mouth-to-mouth propaganda“ during the recent years. All consumers have the opportunity to visit the poultry farm. The regional food producer declare the human relations to the highest priority of the company. In addition, the regional sale and animal welfare are further cornerstones of the corporate philosophy. The animals are slaughtered and processed regionally. Therefore, the entrepreneur cooperates with a local butcher that keep the value added chain in the region.

The actions of the company are less oriented on profit maximisation. It is more a strong intrinsic motivation. Especially, eco-social aspects seem to play an important role. Next to this independence or the link of the company to the home country are important reference points for the actions of the entrepreneur. The communication of ideals, e.g. on aspects of environment protection or animal husbandry, finally make it possible to sell the products in an authentic and trustful way.

The analysed micro-sized company seems to be quite successful avoiding the harsh competition in the agri-food sector. A differentiation strategy, in comparison to the bigger food companies, is obvious. The strengths of the company is grounded on „the way in which the products are produced and in the face-to-face contact to our customers“. Through close communication between food producer and customer, the entrepreneur attempts to portray an image of unique food quality, traceability and sustainability: „The customers can witness the value added chain. They can see the animals walking around the meadow here. Thus, the customers connect that with the food products, which they can buy in our farm shop. They have totally different associations if they go to supermarket.“ In the end, the company sells authenticity, trust and transparency that goes along with the food. By doing so, it is possible to fetch a price that is higher than the “normal” price in the supermarket. „Our niche products can be seen as a chance, I think. We lose our credibility as regional producer if we provide bulk sale. Well, saying it in a heretically way, every global food scandal is a chance for us because people start to realize what is actually happening in the agri-food sector“.

Surprisingly, bigger companies are not regarded as rivals. „We are a small family business and a lot of our products are produced by our own hands’ work. Thus, there is no real competition. Our products are unique. We are not comparable to the companies selling their products in big amounts. There are several providers of poultry products, but because of our in-house production, the quality, the regionality and also our philosophy we are not comparable with any other provider. We are neither comparable by our production, nor by our products, nor by our price. “ Even micro-sized companies are not regarded as rivals. In fact, the entrepreneur see these small-scale producers as potential business or networking partners. „We have close contacts to companies which do it in the same way as we do. However, these entrepreneurs are no rivals at all because they also buy products from us, and we benefit from each other.“ The products and the position on the market is evaluated as being unrivalled by the entrepreneur, nevertheless poultry products in itself do not count to outstanding
products. The uniqueness is the story around the food. This is used as a marketing tool that is valued by the customers.

The concept to sell an unrivalled product, climax in the strategy that emphasize the uniqueness by limiting the amount of offered food. “Especially in the field of meat products seasonality, for example goose for Christmas, is important. It would no good at all if we offer all products throughout the year. Then the costumer would not believe in our credibility as a regional food producer. That is the reason why certain products are just sold at special times. This leads to a rise in demand and makes it possible to establish higher prices”.

The interview definitely reveals the pride on the entrepreneur’s achievements in life and on the own products. The success as micro-sized entrepreneur shall not put at risk by advancing the growth of the company. It is more important to the entrepreneur to keep the current structure of the company and remain true to the own ideals. „There are more and more requests from retail chains that realized their chance to attract customers with regional products. They want to have products with regional character and they accept our prices. They use the products for advertisement and want to be seen as an environmentally friendly and responsible retailer but we won’t participate to that.”

The entrepreneur spends a big amount of time with the maintenance and expansion of his network. In doing so, a huge formal and informal network has been established. A certain mixture of private and commercial contacts can be realized. Meetings do not just serve for entrepreneurial action but provide the chance for face-to-face communication with people with similar problems (e.g. pressure of work) or who share a similar attitude towards certain issues (e.g. ethical husbandry).

Trust between the micro-sized entrepreneurs can also be realized in another field: „Good and long-term commercial co-operations are quite important. (...) Here the man’s word still counts. People shake hands and say that they will start working together from tomorrow onwards and it will be like this. There is no need for contracts full of cancellation clauses nor has a lawyer to be bothered“.

Conclusion: The exemplary presented micro-sized company sells the products only in the local and regional context. With the help of this example, it becomes clear that this type of business has several specific features. The entrepreneurial ambition is not focused on profit maximisation. The pride on the own products, to follow ideals or the personal rootedness in the region outweighs. The own achievements in life and the company shall not be risked by growth. A change of the internal structure of the company could lead to a loss of trust concerning the customers. In the end, the success of the company is built on transparency, authenticity and trust. With this strategy the here presented company seems to be successful.
List of references

The authors in this anthology have argued that local and regional food has a considerable social value in contemporary globalizing world, and they have made a strong case for its continuing promotion in the South Baltic region. This concluding chapter seeks to draw preceding analyses together and proposes an integrative conceptual framework for the development of specific strategies of promotion of local and regional food. The framework draws insights from management and economic literature that examined sources of competitiveness of individual firms, industries, and countries (Eisenhardt and Martin, 2000; Grant, 1996; Porter, 1989, 1990, 1998, 2000, 2003; Siggel 2006; Teece, Pisano and Shuen, 1997) and applies it to the relevant target group, i.e. producers of local and regional food (see Figure 1 below).

The Figure 1 depicts the immediate social and business environment of producers of local and regional food. It distinguishes among producers of local and regional food themselves, their demand conditions (i.e. customers of local and regional food), their factor conditions (i.e. labor market in the food sector), supporting industries (national and regional legal regimes and political institutions that regulate the food sector), and their business rivals (i.e. large scale food producers). The framework asserts that all these elements of the environment are interacting and have impact on business chances for survival and/or growth of local food production on food markets. Different elements of the framework suggest some points for interventions or promotion of local and regional food: (1) innovative marketing of...
local and regional food products among the customers; (2) technical and organizational capacity building of producers of local and regional food themselves, (3) education of labor force on the food market and (4) lobbying of politicians and public officials in national, regional and local governments. In the following each of these strategies are presented and briefly discussed.

**Promotion strategy 1: Marketing**

One potential strategic option available to producers of local and regional food on home food markets is to vigorously and innovatively market their products. Based on a standard set of generic marketing strategies that take into considerations the three business parameters: product cost positions, scope of the target market, and uniqueness of product quality, it may be asserted that the low-cost broad strategy is a preferred choice of bulk food producers (i.e. Box 1 in Table 1 below). By contrast, a standard producer of local and regional food utilizes currently the high-cost focused differentiation strategy that focuses on a specific group of customers on home food market (i.e. Box 8 in Table 1 below). There are, however, other four potential strategic options that are worth considering if producers of local and regional food would choose to pursue growth-oriented strategy (i.e. Boxes 2, 4, 5 and 6 in Table 1 below).

**Table 1** Typology of generic business strategies

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<th>Product cost position</th>
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- **Scope of the target market**
  - High: Low-cost broad strategy
  - Low: High-cost broad differentiation strategy

The former requires reducing costs of production while maintaining the quality standard of food products and services. It could achieve lowering in costs via mass marketing (i.e. reducing costs of product design and mass marketing by utilizing advanced technologies of on-line sales and social media) and strategic partnership (e.g., horizontal integration of producers of local and regional food and effective cost-sharing on related tasks). Realization of this strategy is premised on the capacity to attract skilled labor and pro-active initiative of managers to build strategic partnerships.

*Source:* This is an author-developed typology based on discussion of generic strategy classification by Porter (1980, 35-40; 1990, 39) and of a five-generic strategy by Thompson, Strickland, and Gamble (2010, 140).
The second-best strategic option is to pursue the high-cost broad differentiation strategy. It involves market development for local and regional food both within and outside of home food markets. The implementation of this strategy would rely on aggressive marketing at home and abroad. The remaining two strategies, best-cost broad differentiation strategy (i.e. Box 2 in Table 1 above) and low-cost focused strategy (i.e. Box 5 in Table 1 above) are more difficult to attain but are, in principle, viable options as well. Their realization requires, however, significant efforts at both introducing more cost-efficient processes and penetrating markets. These strategies may be regarded as more appropriate for the main competitors, i.e., bulk food producers, who may decide to move into the segment of local and regional food.

**Promotion strategy 2: Capacity building of producers of local food**

Another strategy for increasing competitiveness of producers of local and regional food would focus on countering structural constraint related to micro- and small scale of production (i.e., increasing economic productivity) through increased horizontal networking. There is a considerable body of research within business literature that supports the proposition that horizontal networking of small-scale producers (SME) enhances their capacity to share knowledge, risks and costs and thereby increase their competitiveness. It is thus a viable strategy of promotion of local food producers to strengthen their capacities and skills to self-organize via informal and formal horizontal networks. Another related strategy is to build capacity of producers of local and regional food to conduct on a regular basis strategic planning. In other words a focused training of producers of local food in business strategy making would increase their competitiveness vis-à-vis their major business rivals, i.e. bulk food producers.

**Promotion strategy 3: Educational programs for students**

The third promotion strategy would seek to increase levels of competence and skills of students and managers of local food enterprises in business management through development of focused educational programs. REGFOOD project documented that the food sector in the South Baltic region needs highly educated and skilled workforce that is trained in modern business management. Development of educational programs in areas of marketing, supply-chain management, and business strategy, therefore, is a precondition for the improvement in the levels of competencies of managers and staff of local food enterprises and their subsequent competitiveness levels on food market at home and abroad. Overall, the investment in education in these areas has a strong potential for rendering regional education more attractive, increasing job competences, and further developing new job and
business opportunities, thereby, promoting regional economies within and beyond the food sector in the South Baltic sector.

**Promotion strategy 4: Strategic partnership**

Finally, competitiveness of local and regional food producers may be strongly enhanced if the broad partnership among producers and local and regional authorities were established and maintained. Such strategic vertical partnership could increase awareness of legislators and regulators about pressing needs and concerns of producers of local food as well as to appreciate the positive impact of local food production on local economy, health of the community and cultural identity.

The four aforementioned strategies of promotion of local and regional food do not exhaust the toolkit of local food producers. Innovative approaches utilizing new social media and on-line technology can strongly enrich existing options. We hope that this anthology shed some new light on available options for promotion of local and regional food and, hopefully, inspired the readers’ to discover new ways to support local and regional food.
References


