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Development and branding of 'regional food' of Bornholm

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1 Description of the TKD and the related FKDs

1.1. Understanding the technical, social (including gender) and territorial dimensions of TKD 1

1.1.1. General description of the TKD and of the economic and social stakes around it

The TKD concerns the last two decades of restructuring and change of the food economy and food governance systems on the Danish island of Bornholm. On the background of dramatic overall employment decline in the food industry and related agricultural and fishing supply chains, about 40 new firms have been established with productions of specialised food and beverage products. Despite big differences regarding products, technologies and business models, a common characteristic is the use of the Bornholm origin of production as a factor causing or adding to the quality of the product as well as a common dependence on the place brand of Bornholm, the result of many years as a significant tourism destination in Denmark.

In a Danish development context lacking traditions and articulated consumer demands for food with a regional identity, this development has been pioneering. Until recently the food industry sector on Bornholm was heavily dominated by large-scale industrial processing of local fishery and agricultural supplies into standardized, often semi-fabricated products that were exported out of the island for further processing elsewhere. This type of standardised food production as well as the fishing and agricultural supplies still exist on Bornholm (as indicated in Table 1) however, the sector has experienced a dramatic employment decline due to structural and technological changes, increased and continuous globalisation, mergers and concentration, productivity initiatives, etc. Hence, despite of creation of about 200 jobs in new small food productions, overall employment in the Bornholm food industry has diminished from more than 2000 jobs to about 900 in the period 1991-2007. Also agriculture and fishing are marked by steady employment decline and structural change towards fewer firms.

In the start of the 1990'ies, beside the large-scale industrial processors of standardized products, only a few small and medium sized producers of specialty food (cheese, smoked and canned fish products, crackers, grain mill products, breads, etc.) existed on Bornholm. Many of these still exist and are listed below. These producers had well-established brands on national and international consumer markets. However, their marketing did not focus on their Bornholm origin but rather on tangible product qualities and their portfolio of products did not form a distinct Bornholm culinary heritage¹. Rather the firms were small and medium-sized individually operating niche producers, each specialized within a highly varying group of foods.

¹ Interview 19.08.08 with Lars Arnt, purchaser in Inco, a leading wholesaler company in Copenhagen.

Also the new Bornholm food products consist of varied specialty versions of generic categories of food such as cooking oil, sausages, beer, wine, chocolate, and ice cream. Hence, in a Danish food industrial context, the novelty of Bornholm food is not connected with the tangible products as such but with the marketing of these as 'regional'. Although similar developments regarding small-scale quality food are identifiable in other locations in Denmark (Manniche 2008), the varying new food products on Bornholm have been successfully exposed collectively on national consumer markets due to targeted place-branding efforts whereby Bornholm has become the leading Danish region for regional food².

The majority of new firms have less than five employees, use artisanal production methods and to a large extent, sometimes exclusively, rely on direct sales and on creation of experiences for the visiting customers, for instance by opening their production so that visitors can see how products are made. These firms depend heavily on the more than 700.000 annual tourists on the island, obviously most of them during the summer. Another group of new firms are classical manufacturers who recently have followed in the footsteps of the before mentioned group of old Bornholm niche food producers and successfully have entered national consumer markets. This group uses more conventional industrial production equipment and distributes main parts of their specialised products via wholesalers and supermarket chains.

Examples of firms in the two groups are listed in the below tables. It should be mentioned that some of the firms placed in the table of 'distribution via retail', such as Svaneke Bryghus and Svaneke Is, also have direct sales from the place of production, and that most of the firms listed as relying on 'Direct sales' also to some extent distribute their products via retailers.

Examples of Bornholm food producers relying on distribution via retail/wholesale

Name	Products	Number of employees	Year of establishment
Johannes Dam & Son	Crackers	10	1855
Bornholms A/S	Canned fish products	60	1915
Bornholm Valsemølle	Grain mill products	6	1920
Sct. Clements	Specialty cheeses and dairy products	68	1950
Bornpoultry	Poultry products	60	1997
Svaneke Bryghus	Beers and soda drinks	12	1999
Kjaerstrup Chocolate By Hand	Chocolate	10	1999
Lehnsgaard Rapeseed Oil ³	Cooking oil	6	2003
Svaneke Is	Ice cream	No data	2007

² Interview 19.08.08 with Lars Arnt, purchaser in INCO, a leading wholesaler of food and beverages to Danish restaurants, caterers and butcher shops, located in Copenhagen.

³ This firm is studied in FKD1.

Examples of Bornholm food producers relying on direct sale to tourists and locals

Name	Products	Number of employees	Year of establishment
Boisen Icecream	Italian ice cream made on local milk and fruits	2	1988
Hallegaard	Farm shop with homemade meat products	4	1989
Svaneke Bolcher	Candies	No data	1995
Røgeriet i Svaneke	Smoked fish	No data	1995
Den Gamle Skole	Honey	2	1999
Lille Gadegaard ⁴	Vineyard (berry & grape wines, distilled products)	6	2001
Karamel Kompagniet	Caramels	No data	2004

The TKD is defined as starting in the middle of the beginning of the 1990's with a few niche food producers who operated on their own and did not specifically use the Bornholm origin in their marketing; and developing into the state of the new food sector on Bornholm today, characterised by a number of firms that produce Bornholm food, which is marketed as regional specialities, where regional networking among firms and regional development agents has been established and a sector-crossing "cluster" for Bornholm food and culinary heritage has emerged. Because of the peripheral conditions of Bornholm, this regional food "cluster" does not have the gravity of typical clusters in the Porterian sense but is a peripheral micro version, however with sufficient impetus to not only affect regional development but also export the concept of regional food to other regions in Denmark. At the core of the cluster are the 19 food processing firms who are members of the Bornholm division of the network association Regional Culinary Heritage (RCH) - a European, interregional association established in 1995⁵. These firms have roughly 400 fulltime employees (2008)⁶. Among the in all 32 Bornholm members of RCH are also 9 restaurants, cafes and caterers, 2 delicatessen shops and 2 public agents. In 2005 the retail oriented producers established another network association, Gourmet Bornholm⁷, in order to start more formalised cooperation on marketing and business development. This organisation is in 2009 very active, has 13 members and is working toward developing a common marketing and distribution platform.

Also private and public support functions have emerged and diversified. Different sorts of business consultancy firms primarily within marketing (KIBSs) and new wholesalers and distributors have been established

⁴ This firm is studied in FKD2.

⁵ See also: <http://www.culinary-heritage.com/>.

⁶ Some of the in total 59 Bornholm firms (2008), statistically belonging to the food and drinks industry, do not count themselves as part of the Bornholm food cluster and do not take part in regional networking. This includes some of the new micro firms as well as the two largest industrial firms. One of these is the multinational fish processing company, Espersen A/S, which in recent years has outsourced most of its activities to low-cost East-European countries but still has a production unit and its headquarters on Bornholm with about 200 employees. The other is the production unit with 230 employees of the large multinational meat processing company Danish Crown with headquarters in Jutland, Denmark. The innovation activities of Danish Crown concerning the developing a specialized Bornholm pork meat production is the focus of our FKD3.

⁷ <http://www.gourmetbornholm.com/> supplemented by interview with Hans Hansen, owner of Lehnsgaard Oil, Georg Julin, Food Ambassador Bornholm, and Tim Stender, owner of Svaneke Bryghus.

supplying the food producers with services and expertise. From a starting point with just a few public sector consultants personally engaged in the issue of rural development, important elements of a regional governance system for promotion of small-scale food productions has been developed and integrated in regional policies and institutions.

The territorial level actors and networks that have played central roles, have been the formation of the Regional Culinary Heritage network, the establishment of a regional food ambassador function as well as a Food Development Centre, including a regional showroom for Bornholm food; and finally, the formation of the business network Gourmet Bornholm, mentioned above.

Table 1 presents some basic statistical data about different agro-food sectors on Bornholm. It should be noted that the figures show net results of decline in certain parts of the sectors and growth in other parts. Due to the heavy decline particularly in standardised manufacturing activities in the investigated period, the overall picture does not give a precise indication about the emerging new productions of regional food.

Table 1. Basic characteristics of agro-food sectors on Bornholm

	Fishing	Agriculture	Manufacturing of fish products	Manufacturing of other food and drinks	Manufacturing firms with less than 15 employees 1)
Number of workplaces 2005	118	457	12	39	43
Number of workplaces created 2000-05	-36	-128	-8	5	-1
Full-time jobs 2005	95	239	292	512	201
Number of jobs created 2000-05	-60	-54	-360	41	21
Turn-over 2005 (mil. DKK)	173	852	1.161	1.074	316
Growth in turn-over 2000-05 (%)	-18,4	12,2	-10,3	49,5	56,6

Source: Statistics Denmark.

1) The firms in this group, in which almost all the newly established regional food producers belongs, are included also among 'Manufacturing of fish products' or 'Manufacturing of other food and drinks'.

As appears from these statistical data, this TKD case study has not been selected for reasons related to results in job creation and economic growth that are remarkable in a comparison with other sectors and regions. However, the TKD is considered highly typical of processes of change in contemporary agro-food systems and markets in many Western countries. Additionally, the case study offers a perspective on territorial knowledge dynamics related to economic development and innovation in a peripheral region, especially one where tourism plays a major role in the economic set-up of the region. This means that the knowledge dynamics are affected by peripheral socioeconomic characteristics such as dominance of traditional low-tech economic sectors and micro-firms, weak institutional systems for research and education, low levels of education, depopulation etc. With only 43.000 inhabitants Bornholm surely is too small for specialized types of higher education and vocational institutions for food related activities, especially because the regional food productions diverge in many directions. Thus, the only educational programs relating to food production on Bornholm at the moment are basic vocational education degrees on cooking,

catering and nutrition, primarily educating and training staff for the regional tourism industry and public catering companies.

The TKD of developing a production, marketing and promotion platform for Bornholm foods and drinks encompasses a number of related knowledge dynamics, crossing a variety of knowledge contexts and economic sectors and involving elements of political and social discourse setting. Rather than science-driven creation of fundamentally new knowledge and technologies, the TKD involves social dynamics of adopting, contextualising and exploiting production and marketing knowledge originating from elsewhere. However the TKD also involves crucial elements of regional interaction among the food producers and between the food sector and other sectors such as tourism, restaurants, arts & crafts businesses.

Among the numerous topics that have been central for the territorial knowledge dynamics of creating a regional food platform on Bornholm, the following four have been particularly critical:

- Development of Bornholm food and drinks
- Territorial-level cooperation and Culinary Heritage
- Developing the experience economy in the food sector on Bornholm
- Place-branding of Bornholm food

In the following paragraph (an amalgamation of 1.1.2-1.1.4 of the EURODITE WP5 template) we will describe these topics for knowledge creation in more details and, in connection with this, investigate the important social actors, forms of interaction and learning, and territorial dimensions (the what, who, how and where).

1.1.2. The topics, social actors, forms of learning, and spatial dimensions of the TKD

Development of Bornholm foods and drinks

The food firms on Bornholm which have emerged since the start of the 1990'ies are among the pioneers in a trend in parts of the Danish (and international) food industry; a trend and innovative process which is expressed in strategies of small-scale, specialised food products, which emphasize differing quality definitions such as 'gourmet', 'artisanal', 'organic' and 'regional identity'. It is important to recall the historical point of departure in the mid-nineties in a context of 'productivism'⁸ in which the Danish agro-food economy including agriculture, processing, distribution, wholesale and retail, marketing, R&D, governance and regulation, consumption, etc. was heavily dominated by principles of standardisation, price, scale and efficiency factors including more functional and technical demands regarding hygiene, safety, health etc.

Accordingly, the studied process was initiated due to the normative, idealistic motivations of a few entrepreneurs and rural development actors, who wished to create new ways of producing and consuming food,

⁸ See for instance Goodman 2002 and Goodman 2004 for analyses and discussions of the 'productivist' elements of conventional food systems.

'alternative' to the dominant industrial food production-consumption model in Denmark. This was encouraged by new discourses in society and culture, driven by mainly urban consumers and expressed through a growing attention in the media (TV, radio, and women's-, lifestyle- and tourism- magazines) on food as a social and cultural identity-marker and on certain critical aspects of global conventional food systems related to the environment, to safety and health issues and to processes of cultural homogenisation. One of the actors contributing to the staging on Bornholm of an 'alternative' discourse regarding food production and rural development put it this way:

"It was the hope of the idealists to create diversity: to show more love in the handling of foodstuffs and to create hope regarding the development of rural areas. We are up against mainstream agriculture, drumming off with large multinational food industries in front. We see still fewer actors in farming and food manufacturing, and the remaining become larger and larger. These are reactions against this boring world." Jørgen Hammer, chairman of the board of the Bornholm Local Action Group and chairman for the Bornholm Association of Village Citizen's Societies (Sammenslutningen af Borgerforeninger), interview March 24 2009.

The idea to create alternative food on Bornholm was inspired by artisanal food production and marketing traditions in other, mainly Southern European countries but also small-scale food production and farm shops in rural Sweden were a source of inspiration. Whilst regional food traditions in Southern Europe are well-renowned and described through mainstream media such as women and lifestyle magazines and television programs, knowledge about regional rural specialties in Sweden was developed through networking between rural development actors in Scandia and on Bornholm supported via the EU program INTERREG (see paragraph 1.2). Bornholm (and Denmark in general) has weak traditions, compared to for instance Southern European countries, for regional culinary heritage, i.e. traditional food and drinks specific for certain parts of the country.

In the start of the 1990'ies, side by side with a number of large-scale industrial processors of highly standardized products, only a few small and medium sized producers of specialty food existed on Bornholm. Many of these still exist and are listed above. These producers had well-established brands on national and international consumer markets. However, according to Lars Arnt, purchaser in Inco, a leading wholesaler company in Copenhagen, their marketing did not focus on the Bornholm origin but rather on tangible product qualities and so, their portfolio of products did not form a distinct Bornholm culinary heritage. Rather the firms were small and medium-sized individually operating niche producers, specialized on highly varying sorts of foods.

Despite the lack of comprehensive regional food traditions on Bornholm to exploit commercially, including a common basis of knowledge about distinct product and technology fields, the territorial dimension was from start central in the regional thoughts about possible definitions of 'alternative food'. Due to the economic and social problems connected with the decline in the regional conventional agro-food economy, an important entrepreneurial motivation for starting new food productions was to contribute to the economic and social development of Bornholm as a rural area and community. A good example of this is provided in one of the firm-level case studies (FKD2).

However, the lack of regional food traditions meant that the ideas for concrete food products on which to establish productions, as well as the process of realizing such ideas, relied on the innovativeness of individual (overwhelmingly male) entrepreneurs. Excepting a number of diverse smoked fish products, these ideas did not tap back into old food traditions by replicating certain authentic regional products or recipes. Rather they connected to new international cooking concepts of 'fusion cuisine'; they eclectically selected categories of products, the origin of which are not necessarily regional, and provided them with a territorial dimension and interpretation by framing them in a new, contemporary storytelling about the region or the place of production, as is described later.

Accordingly, the 'picnic basket' of varying specialty versions of generic categories of food and drinks, like beer, wine, cheese, lamb meat, sausages, smoked fish, cooking oil, chocolate, ice cream etc. that today defines Bornholm food, is the result of independent knowledge adoption and learning-by-doing processes at the level of individual firms, who independently involve and interact with external actors. Product development in the new Bornholm food niche has primarily been carried out by the individual entrepreneurs - often with no specific educational and professional background regarding the targeted product category - who initially searched for codified, primarily artisanal knowledge and technologies originating from outside the region, and then applied this knowledge through practical processes of learning-by-doing and adaptation to the Bornholm production and market conditions. The feasibility of creating a successful business through such knowledge dynamics reflects the easy conditions for market entry on contemporary Danish food markets: initial demands of capital and other resources are relatively low; the demands for specialty products is unmet by other producers; and in general there are favorable opportunities for 'gap-filling' business strategies (Dahmén 1988, Shaw & Williams 1990).

The external knowledge which firms obtained through consultants pertains to professional networks organized around specific food products and technologies, thus differing for individual firms. In a few cases concerning the development of product types not usually produced in Denmark, codified (but free and not protected by patents), mobile, synthetic product and technology knowledge has been searched for and provided through international, geographically wide-ranging networks and information channels such as the internet, competitors, industry associations, technology suppliers etc. One example of this is the wine producer studied in the FKD2, and another is a producer of Italian ice-cream who bought his production equipment in Italy and provided knowledge through the Italian technology supplier⁹. However, in most cases, including the mentioned ice-cream producer, codified product and technology knowledge largely existed and was provided primarily at a national level, for instance via direct personal contacts to other Danish producers within a specific product category, and complemented with tacit elements through learning-by-doing.

This way of providing and obtaining knowledge through professional knowledge sharing networks, including competitors, is obviously possible only because the competitive exploitation of the knowledge is tied to the tacit element derived through practical use rather than tied to the simple appropriation of basic codified

⁹ Interview with Thorkild Boisen, owner of Boisen Ice Cream, February 2009.

knowledge. However, it also reflects a common characteristic of the entrepreneurs as persons with a normative, not purely profit-oriented motivation and a practical rather than theoretical approach to business development. As put by Torkild Boisen, chairman of the Bornholm division of the European association Regional Culinary Heritage:

“The Bornholm food entrepreneurs generally are very practically oriented persons. They are not theoretically minded persons who when they have a problem, ask “I wonder what might be the best to do?” They just ask “Does this work?” and jump directly into practical action. Maybe they call somebody in the industry that they trust and ask for advice. Of course this behaviour means that they make a lot of mistakes and have to start from scratch again. But they often have a very strong idea about the type of production they want and without this they would never have gotten to where they are now.” Torkild Boisen, chairman of the Bornholm division of the European association Regional Culinary Heritage, interview February 2, 2009.

Another way of ‘in-sourcing’ external product and technology knowledge is by attracting personnel with specific educational competencies and skills. However, since there is a barrier in attracting such personnel to peripheral areas such as Bornholm, there are but few examples of this. One of these is the micro brewery, Svaneke Bryghus, which was established by a regional entrepreneur without professional experiences in beer brewing but who succeeded in employing a skilled brewery master that was formerly employed in another Danish brewery¹⁰.

The two main exceptions to this general picture of adopting and reusing historical and traditional product knowledge is the product innovations in focus in FKD1 and FKD3 (see section 1.4). In both of these cases, new products (a rapeseed cooking oil and specialized pork meat) as well as the production technologies to produce them, resulted from targeted R&D activities related to universities, research organizations and large companies outside Bornholm. In general, formal R&D activities have not played a direct role in the innovation of Bornholm food products and even in the two mentioned examples, the research-based originality of products and technologies has not been emphasized in their marketing as a competitive asset.

An important characteristic of the KDs which have resulted in the development of Bornholm regional foods is the skill and persistency of the entrepreneurs by which they appropriated and now use knowledge within a specific production field. Opposed to the firms which primarily focus on direct sales to visiting tourists, the group of firms with ambitions to distribute products via wholesalers and retailers (supermarkets) on national and in some cases international markets, must be able to create certain tangible product qualities, which can compete with conventional products, and thus bring in premium prices on the market. Thus, profound synthetic product and technology knowledge is vital in particular for this group, among which there are several of the old niche producers on Bornholm, including those mentioned above. Some of these firms have scored highly in diverse product competitions and quality tests. For instance, as the only cheese producer in the world, the dairy Sct. Clemens has succeeded in being elected as World Cheese Champion twice (1980 and 1998), with its Danablu cheese (<http://www.st-clemens.dk/Engelsk/index2.htm>). The producer of

¹⁰ Interview with Tim Stender, owner of the Svaneke Bryghus, August 2008.

Rapeseed cooking oil (in focus in FKD1) recently ranked as number one in a test of cooking oil products on the Danish market organized by a big newspaper (<http://fpn.dk/mad/test/article1388445.ece>) and also Svaneke Bryghus has scored highly on expert panel tests of Danish micro breweries products. Furthermore, products from six of the local producers were selected as part of the official dinner at the royal wedding of the Danish Crown Prince in 2005. And finally, the Copenhagen-based restaurant “Kofoed’s” (a typically Bornholm ethnic surname), which bases its menu on Bornholm food products, has been included in the Michelin Restaurant Guide 2009. In 2005, twelve of the firms established the network association Gourmet Bornholm to strengthen their cooperation regarding marketing, distribution and other issues of common interest. In April 2009 the association had 13 committed members.

In summing up, the KDs of developing and producing Bornholm food products have involved firm-specific transfers of mobile codified knowledge to Bornholm from other parts of Denmark and Europe, a proceeding process of learning-by-doing, and finally, application in production with a few adaptations to local conditions. These KDs have contributed to the establishment of important links between individual firms and external professional knowledge systems outside Bornholm. Recently, the retail oriented producers have started more formalised networking i.e. regarding marketing and distribution (see below). However, due to the diversity of product categories, a common product and technology knowledge platform has not emerged and is not expected to occur. When it comes to core synthetic technology knowledge, the firms are very different and take part in varied knowledge chains and relations, and regional interaction only plays a limited role in this field. This might be a barrier for providing relevant regional vocational training and higher education programmes, which in turn could promote the further development of Bornholm food, an aspect also pointed out by regional food producers in a recent survey (CRT 2008b).

Territorial-level cooperation and Culinary Heritage

One of the first major steps at the territorial level in the development of a new Bornholm food sector was taken in 1995 with the formation of the European association: Regional Culinary Heritage (RCH) (<http://www.culinary-heritage.com>). RCH is a joint initiative between rural businesses and development organizations originally involving only Bornholm and Southeastern Skandia/Sweden, the region of Sweden closest to Bornholm with whom Bornholm has had interregional cooperation since the 1980'ies (see 1.2). The formation of the association and its activities was supported by the EU INTERREG-program and the network has developed and spread to other parts of the EU. Today there are 23 member regions representing Sweden, Denmark, Poland, Latvia, Lithuania, Germany and Spain, each with paying members from firms within the food processing industries, the restaurant sector, and distribution & retail. In March 2009 there were 32 members on Bornholm of which 19 belong to the food and drinks industry. Together they represent a substantial part of the regionally owned food industry. Since the start in 1995 recruitment of new members has been high both among the newly established Bornholm food producers and among the old group of specialized firms. This indicates that firms define themselves not only as individual actors but also as a part of a collective project of developing regional culinary heritage.

The purpose of RCH is to promote the development of culinary heritage in the member regions. From the start, and supported by former and present regional policy actors such as the board of the Local Action Group of the EU Leader+ program (see 1.2), one of the strategic goals was to enhance sector-crossing cooperation between food and tourism including the restaurant sector. Experiences related to food as a cultural marker have always been a central part of travelling and tourism, i.e. tourists travel not just to witness the unique landscape but to experience local/regional history and culture. One of the most easily accessible forms of commercializing a culture is through food – either by selling traditional culinary products or by preparing local foods in local restaurants for tourists' direct consumption. Developing food-related experiences is therefore by no means a novelty in itself. However, there has been a real shift in the way such food products are being presented to tourists as well as a shift in the heterogeneity of the available food products. Bornholm was previously known primarily for its smoked herrings and a dish called "Sun over Gudhjem". Now, Bornholm offers a plethora of not just regional products, but also new regional dishes, composed of regional raw materials. Ten years ago, tourists travelling to Bornholm could buy smoked herring in smokehouses along the coast and standard, non-descript food in the restaurant and catering sector. Now new restaurants have sprung up, which focus on preparing a modern fusion of French/Southern European and Nordic cooking, meals made up of regional food materials, the background and qualities of which are informed about on the menu and explained to guests by the waiter. The chef at one of Bornholm's leading restaurants described the development this way:

"Many restaurants on Bornholm have benefitted from the increasing supply of local food of a high quality and with a good story for customers. It has resulted in development of concept-menus in the restaurants. Ten years ago we were happy to get a local supplier of fresh quality lamb meat. Due to his way of production it was an advantage for us to buy whole lambs and not only parts of lambs such as the legs. So, besides the traditional lamb dishes, we started developing new dishes using other parts of the lamb that are not so often used in Danish cooking, the shoulders for example. We always inform customers about our suppliers on the menu and use them in our marketing. And customers really seem to like this development. They like to hear the story about the origin of their food". Claus Seest Dams, chef of Restaurant "Di 5 Stâuerna" ("The Five Lounges"), Hotel Fredensborg, April 8 2009.

It should be noted that while the English name for the association is Regional Culinary *Heritage*, the Danish name is *Regional Food Culture*. Thus, in a Danish context, the name leaves room for a re-invention of a regional food culture, such as is described above.

The sector-crossing cooperation at regional as well as interregional European level among members of RCH has contributed greatly to the development of a distinct Bornholm culinary heritage. Interregional cooperation under the umbrella of RCH has only to a limited extent involved interaction between individual firms. Interregional cooperation has mainly consisted in common marketing initiatives for the member regions (such as elaboration of a logo that all members are allowed to use) and inspirational study tours to regions abroad giving members important inputs regarding sector-crossing dimensions of regional culinary heritage and commercialization and marketing thereof.

Specifically for the Bornholm members of Regional Culinary Heritage, four study tours were organized to different rural areas of Sweden and one to Iceland in the late 90'ies. According to Hans Jørgen Jensen, secretary of the Bornholm Local Action Group for EU rural development programs, who organized the first trip for Bornholm food entrepreneurs to South-East Scandia/Sweden in 1995 and was actively involved in the foundation of RCH in 1995, practical experience with alternative small-scale food productions, farm shops, and distribution channels were more advanced in rural Sweden than in Denmark in the mid-1990's. From the Swedish perspective, Bornholm's larger tourism and restaurant sectors were considered especially interesting for best-practice experience exchange. Accordingly, mutual study trips have been organized to exchange experiences regarding subjects of general relevance - such as how to evolve from product development to sale of small-scale food productions in rural areas; how to organize farm shops and other visitor facilities; how to build cooperation and interaction with restaurants and other local distributors; as well as know-how on packaging, and compliance with regulative demands, etc.

Other territorial level activities have been the food ambassador for Bornholm food outside Bornholm, the Regional Food Development Centre and a food showroom with a number of activities promoting Bornholm food and finally, the Gourmet Bornholm association which has been described above. The knowledge dynamics involved in the work of the food ambassador and, indeed, the results of his work, will be presented later in this section; while the food showroom and other LAG instigated activities, will be elaborated in section 1.2., concerning regional policies affecting the TKD.

The development of the experience economy in the Bornholm food sector

Generally a business model based on dedicated premium-priced products and normative values depends on customer trust in and alignment to such qualities and values. Thus, close relations and dialogue with customers are needed, for instance through direct contact via for instance market fairs, marketing events, and customer visits to the production facility or via e-mails and homepage-based personal contacts and communication.

Bornholm food producers, as many others, build customer relations by adding experience elements to their products. They organise their production, building facilities, marketing and sales in ways where the value of physical products are enhanced by adding immaterial sensuous, emotional, normative, narrative and other experience dimensions. From the producer's perspective the purpose of this is to build a personal relationship to and gain the trust of the customer (if just for a moment) – a relationship on which added-value can be realised. In most cases this is not done on the basis of knowledge about costumers provided in systematized manners such as formal market and customer analyses. Rather experience elements are developed on the basis of ideas and 'instinctive feelings' of the business owners and/or, as we shall return to, via inputs from consultancy firms.

The experience elements of Bornholm food firms take diverse forms and indeed carry different weight in conjunction to more tangible competitive product qualities. To a relatively high degree, the Gourmet Bornholm group of 'classical' manufacturing firms rely on their abilities to create tangible competitive product

qualities (such as a good taste), demanded on markets outside Bornholm. Nevertheless, to maintain and develop these premium-priced markets, it is important to provide the product with a distinct identity – in this case a geographically defined identity - through stories, symbols and information that comes with the product, for instance on labels, packaging, advertising and marketing materials. They embed consumer experiences in the physical product and combine it with additional storytelling experiences that makes the consumer relate to the product.

Another segment in the new Bornholm food sector consists of firms with products which are interdependent with the tourism industry on Bornholm; i.e. they rely on tourists to come to Bornholm, and therefore, to a much larger extent than is the case with the exporting segment, rely on experience elements that cannot be separated from the production process. They give customers physical access (full or partly) to production facilities and thereby commodify the experience of personally seeing, hearing and smelling how products are produced. This model is well-suited to the demands of family tourists, thus explaining the plethora of confectionary producers of candies, chocolates, caramels, ice cream etc. A special sector-crossing version of this model is the combination of a brewery and restaurant, allowing for dialogue with and feedback from customers. The entrepreneur exploited this model mainly in the initial start-up phase before he decided to invest in larger industrial production equipment and to separate production and sales by moving his beer production to other local facilities. Thus tourists, in this case, functioned as amateur taste testers in 'the development phase of the product. These sorts of experience elements are basically made through exploitation of symbolic, architectural design knowledge, embodied in "open workshop" concepts integrating production, marketing and sale.

Natural sources of inspiration for such open workshop business concepts, were traditions for agro-tourism, artisanal production and direct sales of local food, especially characterising Southern Europe, as well as the long traditions on Bornholm for fish smokehouses, which are a distinct tourism attraction. Later the use of open workshop concepts has been expanded to glass, ceramics, textile, wood and other arts & crafts businesses on the island of which there are about 100 (2009). A few firms (including the one studied in FKD2) also engage in commodification of more advanced, complex types of customer experiences such as paid, guided tours on which visitors are told about the products, production, firm, etc.

A group of 5-10 consultancy firms (KIBS) located on Bornholm with differing backgrounds within the fields of graphical design, marketing, communication, branding and strategic management, have played a remarkable catalyst and intermediating role in the development of such marketing, storytelling and experience elements of Bornholm food producers, as documented in detail in FKD1 and FKD2. Most of these KIBS were established within a five year period around the millennium by consultants (like the entrepreneurs in the food sector, overwhelmingly male) moving to Bornholm from the Copenhagen area due to private lifestyle choices concerning improving the quality of life for themselves and their families by moving to a rural area and starting a business. This group was indirectly supported financially through diverse policy schemes targeted consultancy of small firms (see 1.2), and they thus provided an important input to the regional rural economy embodying mobile knowledge, which they in turn had achieved through partly formal educations but primarily through years of work in the urban Copenhagen environment as private consultants of companies and public institutions. This knowledge concerned, for instance, trends in cultures,

societies and consumer markets, the emerging 'experience economy', new management, communication and marketing theories and methods, business models based on dedicated product qualities and normative values, i.e. knowledge about how to identify and formulate commercially exploitable values and stories of the food producers and how to communicate them in marketing and via a coherent organization of production, distribution and sales. According to the consultants interviewed in relation to this TKD and the three FKD case studies, this sort of marketing and communication knowledge generally is based on generic principles and methods that only need contextualisation to be applicable in most parts of the economy.

Seen over the entirety of the regional process of developing a new Bornholm food sector, the regional KIBSs have played their important role only in recent years towards the end of the process, in which firms focused on commercialization and marketing. The regional KIBSs have played an important intermediating role for transferring and contextualizing urban, mobile marketing and communication knowledge into the rural Bornholm context. Both in terms of delivering concrete marketing materials and graphic designs and in terms of giving regional food producers an understanding of the implications of running experience and value based businesses. One of the consultants described the knowledge chains and his role in these this way:

"One line of knowledge transfer starts in 1997 with Pine & Gilmore's book on the concept of the 'Experience Economy'. Big international consultancy firms started using the concept in new management, marketing and communication ideas and tools, but still they were extremely abstract and superficial and used the same real-world examples again and again such as Disneyland. What I have tried to do here is to contextualize and translate these abstract ideas to the economic reality of Bornholm - for instance food producers located in the middle of tourists and arts & crafts businesses. But I would like to go a step further back in time. In the start of the 90'ies I worked in Copenhagen with things like 'value-based business development' and 'green balance sheets' for environmental organisations. And in many ways the work in the environmental planning sector with value-based business development was pioneering and the direct inspiration for how businesses and cultural institutions later on started using and communicating the principles of the experience economy." H.C. Holmstrand, private consultant, interview August 29, 2008.

The absence of regional traditions for culinary heritage, i.e. of a codified "key" list of ideal food qualities to target by producers, probably contributed to the openness of regional entrepreneurs to listen to and follow the inputs from marketing experts, moving to the island from the capital. Nonetheless, as indicated by one of the food producers in the quotation below, the "cultural" meeting between marketing experts coming from the capital area and production-minded entrepreneurs in the periphery was not without problems, and often concerned discrepancies between expectations:

"I chose the consultancy firm KB because I wanted them to have a free hand to suggest anything at all. They provided me with a branding strategy and different marketing materials. For two years I thought it was ridiculous and worthless, but then customer demands started appearing, showing that it had paid off." Hans Hansen, Lehnsgaard, interview June 17, 2008.

However, in addition to the important contributions made by individual firms, crucial experience and storytelling dimensions of Bornholm food have been created through the fundamentally *collective* process of defining and developing a 'Bornholm' culinary heritage. Again we should recall the historical point of departure in the mid-90'ies in ideas about development of alternative 'regional' forms of food production and distribution. Realizing such an agenda by definition depended on collective action and was not a project for individuals. The creation of a Bornholm culinary heritage has involved interaction and networking not only among Bornholm food producers but also between the food sector and other experience-based sectors such as tourism, restaurants and caterers, and arts & crafts workshops (ceramists, glass blowers, textile and clothes designers, etc.) as well as interregional interaction with other rural regions at a European scale. The pioneering work of the Regional Culinary Heritage network, described above, has been pivotal here.

But other actors have been active as well. Regional sector-crossing cooperation and market interaction involving firms as well as public organizations and industry associations, has emerged. In order to be marketed as part of regional culinary traditions the new food producers have made big efforts to establish delivery/supply contracts with restaurants and cafes on Bornholm, and food producers in cooperation with firms in related sectors (tourism, restaurants and arts & crafts businesses¹¹) have contributed to the development of new Bornholm culinary heritage products. For example, the national tourism promotion organization, Visit Denmark, has supported the development of a special "Love plate" - a "date" between Bornholm and Dragør, a small trendy "urban fishing village" close to Copenhagen. In both places, a ceramic artist has designed a special plate and a special restaurant menu using local food supplies. The Dragør restaurant serves the Bornholm "love plate" and vice versa. Another example is a student project carried out by students at the Glass- and Ceramics School on Bornholm, whereby students interacted with food venues on Bornholm and created pottery related to the food product and used in marketing. For example the front window of the Kjærstrup chocolate show on Bornholm features a ceramic light-pinkish glimmering cloud on which different chocolate products are displayed.

To sum up, the KDs involved in the creation of "added value" through the selling of experiences as an integrated part of food products has taken three forms. One is characterized by an insertion of mobile knowledge about communication and experience economy-based business. Regional KIBSs with backgrounds, networks and connections in urban areas play the intermediating role of contextualizing experience economy knowledge and anchoring it among regional producers. Another type of KD is hyper-local and the result of Bornholm's strong traditions of tourism and arts & crafts businesses. At firm level this involves mainly implicit knowledge about experience-based businesses, 'blowing in the wind' as a free public good and a common inspirational knowledge base. The third involves interregional sector-crossing interaction between Bornholm and member regions of the European association Regional Culinary Heritage, important primarily

¹¹ Bornholm has long-lasting traditions within tourism as well as within the arts & crafts sector. There are about 100 arts & crafts businesses on the island, employing approximately 140 persons, and organised in two network organisations: Arts & Crafts Association Bornholm (ACAB – <http://www.craftsbornholm.dk/index.php?Itemid=16>), established 2001 and with 64 members (May 2009), and Bornholmske Kunsthåndværkere (<http://www.borncraft.dk/>) established 2003 and with 19 members (May 2009).

concerning the transfer of knowledge and best-practices regarding commercialization of culinary heritage. This has provided Bornholm with new international network relations to rural areas abroad.

Place-branding of Bornholm food

The first many years of the studied TKD were a start-up phase for the new Bornholm food producers, where they developed their product and built up their technology and business organisation. Because the product idea was not always very precise, this for many was a troublesome and long-lasting process. They had perhaps succeeded in starting production and sale but until about 5 years ago the vast majority were firms dependent on local markets. For many, this was not a real problem since the ambition was to run an experience based business with direct sale and not to produce and distribute goods on large distant markets. Some, however, had ambitions of following the example of old niche producers of specialised foods and entering larger markets outside Bornholm. For the new, small firms with growth ambitions, with the group of well-established producers to a large extent were role models for how to enter markets outside Bornholm, how to build up distribution and marketing channels, etc.¹²

Still, a framework for more targeted, coordinated marketing and branding whether privately organized or based on public governance institutions, did not exist. Despite of this, the development of a distinct Bornholm culinary heritage without doubt was positively influenced by being branded as part of a larger European project. Furthermore, Bornholm indeed has long traditions for marketing cooperation between food producers and arts & craft businesses. On the initiative of the regional business council (BEC) small firms of the two sectors started formalised cooperation in 1993 through organisation of common annual 'Christmas Ship' exhibitions and sales events in December on the ferry sailing between Bornholm and Copenhagen. However, this was not a feasible platform for high-profile branding on national consumer markets.

The decisive efforts, which have resulted in a successful branding of Bornholm foods as part of a broader place-branding, were accomplished within two different, but interrelated frameworks of, on the one hand, regional policy initiatives and, on the other hand, initiatives taken by tourism organisations.

Place-branding through regional policy initiatives

From the start in the 1990'ies and throughout the development process, regional policy actors for rural development have played a central role in creating the needed institutional supportive framework for regional foods in which the Bornholm Local Action Group holds a central position (see 1.2). While the established governance structures only to a limited degree have supported firm-specific knowledge dynamics related to synthetic engineering product and technology fields, they deliberately have supported the launching of common branding activities, and thus have made a decisive contribution to the market success of Bornholm food. Two concrete policy initiated branding activities should be emphasized: the elaboration of a

¹² Interview with Georg Julin, Bornholm Food Ambassador, March 4th, 2008.

Bornholm Lifestyle magazine and the employment of a 'Food Ambassador' for the island. Both initiatives were supported by the Bornholm LAG under the EU Leader+ 2000-06 program for rural development.

In 2003 the Bornholm LAG commissioned a local consultancy firm with expertise in communication, photography, and graphic design to produce a trendy Bornholm magazine, with an urban look and exclusive design. The central content was public information about the activities launched and supported by the LAG involving three strategic priorities ('lighthouses') on regional food, arts & crafts, and business networking. Target groups were not only the citizens of Bornholm, but also visiting tourists and persons who might consider moving to Bornholm. Advertisements focused on Bornholm firms within food and arts & crafts, and depicted innovative entrepreneurs with traditional artisanal values and a love for the location, which in turn was embodied in their products. The chairman of the Bornholm LAG gave the following evaluation of the magazine, stressing the implications for regional identity formation and local policy in general:

"The magazine gave a picture of a Bornholm in harmony with itself and yet, ready to go new ways. Suddenly we got Bornholm heroes shining on the island, the wine producer Jesper Paulsen, the beer entrepreneur Tim Stender, the chocolate maker Kjærstrup, something we were acknowledged for. ...They showed a side of Bornholm that was trendy and yet compatible with the traditional and historical. (Jørgen Hammer, chairman of the Bornholm LAG, interview March 24, 2009).

Another policy-initiated branding activity was the work carried out by the so-called 'Food Ambassador', employed in 2004-05 by the Regional Food Development Centre (see 1.2). This function was established as part of the regional LEADER+ 2000-2006 strategy to promote the further development and growth of regional food and on the basis of recommendations in a research analysis on the new Bornholm food sector carried out by the Centre for Regional- and Tourism Research (Hedetoft, 2004). The visibility and branding work of the food ambassador naturally followed the first phases of developing concrete food products and business models through firm-specific KDs.

The food ambassador had a background as journalist and a long professional career in diverse types of media including TV, radio, newspapers and magazines through which he had achieved a certain reputation and name in the Danish media world. In addition to his journalism and communication skills, he had a wide ranging network of professional as well as private contacts all over Denmark, and especially in Copenhagen. He exploited these networks by spreading marketing information about Bornholm food to, among others, leading journalists in diverse media¹³, leading Danish cooks and restaurants, national tourism organizations and, not least, wholesalers and supermarket chains. The retailing sector is a highly important channel for distribution of Bornholm food since quality and specialty foods have moved from only being available in delicatessens and specialty foods stores, to being available in large supermarket chains.

¹³ The food ambassador systematically identified and listed approximately 400 freelance and employed reporters in Denmark, who currently wrote articles about food in Denmark. Among these he selected 30-40, whom he evaluated to be the most relevant for his task and to whom he directed his main communication initiatives. This list of food journalists was also made available to food producers on Bornholm along with instructions about the importance of individual firms to build up a personal relationship with some of the journalists and to systematically utilize the media in their marketing strategies.

As mentioned before, a central priority in the Bornholm LEADER+ 2000-06 strategy was synergetic interaction between food & drinks producers and arts & crafts workshops. The food ambassador saw a great branding potential in the symbioses between regional food, arts & crafts and tourism. Accordingly, his efforts of branding Bornholm food in practice was an integral part of a broader place-branding of Bornholm with a clear tourism orientation and focusing on 'unique quality products' of the island. This branding strategy was in line with the work being done in the tourism sector, as documented below.

A main contribution of the food ambassador to enhance the visibility of Bornholm food, besides encouraging the individual food producers into more professional and targeted marketing and visibility efforts, was the organization and realization of a number of events. The effects of these initiatives did not only stem from the events as individual activities but more so from the professional and consistent coordination of a concerted staging of Bornholm food through the media over a longer period of time. As a general comment regarding his exploitation of communication knowledge and social skills in networking, the food ambassador said:

"I have experiences in choir leading and my job as food ambassador was somehow similar: to make a harmony and a melody out of several individual voices." (Georg Julin, Food Ambassador, interview March 4th, 2008)

One of the branding events was a common branding trip for food producers and arts & crafts businesses to the inner harbors in Copenhagen, of which one (Nyhavn) is a main touristic site in the historical centre of Copenhagen, which attracts many visitors every day. The trip was made in an old, wooden boat from Bornholm on which visitors could see and buy the products. Many experienced-based activities and stunts were integrated in event. The ambassador had notified national and local media about the event, which accordingly was well-covered by TV, radio, and newspapers, and the boat was visited by 6.000 people.

Another event which branded Bornholm food products was the wedding of the Danish crown prince Frederik to crown princess Mary in May 2004; a national cultural event with maximum media attention and coverage. Partly due to the professional lobby work of the food ambassador, who personally had connections to members of the royal family as well as to the catering manager at the royal court, six different Bornholm food products were selected by the royal court as part of the wedding menu. According to our interview with the food ambassador, his lobby efforts were conducted through a balance between trust-creating discretion and interest-creating directness that generally helps create, maintain, and enhance commercially useful social networks. The inclusion in the wedding menu was conditioned by a "gentleman's agreement" with the royal court that the suppliers only used the event discretely in their marketing. Nonetheless, the event was a supreme quality mark and gave an invaluable branding effect for Bornholm food.

In line with the directions of the Regional Food Development Centre, who employed the food ambassador, a strategy was followed, in which branding and marketing efforts focused on selected firms with products, resources and ambitions to enter external consumer markets. The argument legitimizing such a selective strategy was that enhanced visibility of a group of 'locomotive' firms, which in the long run would also promote the remaining group of firms – i.e. to create a place brand for all Bornholm food quality foods. How-

ever, the selective strategy led to some dissatisfaction among the local food producers, encompassing many different views about Bornholm food and the right development strategy.

From the few but highly influential purchasers of nation-wide wholesale and retail chains who in fact determine what goes on the dining tables in the majority of Danish households, the food ambassador got the univocal statement, that the paramount condition for producers wishing to enter their markets, was the ability to fulfil agreed delivery guarantees, and consequently certain economic resources and personal ambitions to always meet this demand. Secondly, but also obligatory, was the demand for promotional materials, product documentation, pictures etc. telling a good story about the product, production and/or producer in marketing and advertising initiatives. Thirdly was the demand for distinct qualities embedded in the product such as its taste or ingredients, physically distinguishing them from mainstream products. Thus, in order to enter the national markets, Bornholm producers had to commit themselves to strict demands of all-year stabile production and logistical organization.

This facilitated the general acknowledgement among the Bornholm producers that they – despite differences in products and technologies and despite widespread perceptions of each other as competitors rather than partners - had certain common conditions and interests. Thus, as a result of the food ambassador's network building efforts for the group of growth oriented producers, they started a closer, more formalised type of networking. The ambassador preached the philosophy that the producers were not competitors but complementing, symbiotic partners, each dependant on the other. By actually proving, through common marketing events, that their market opportunities as individual firms could be increased by collective action and by the diversity that they represented as a group, the attitude of the producers changed in the direction of more openness and cooperation. Thus, in 2005 they established the producer association Gourmet Bornholm in order to promote the further development of markets and products.

Branding of gastronomic tourism

Also Destination Bornholm, the regional tourism development organization, has been involved in branding the new regional culinary heritage on Bornholm as part of a larger place-branding of Bornholm. Food, smoked herrings, and the opportunity to get distinct eating experiences have always held a central place in the tourism marketing of Bornholm. However, according to information from Mikkel Jensen, development manager at Destination Bornholm, his organization noticed a growing interest among Danish tourists and tourist organizations in local/regional food as integral components of tourism products as the result of the national exposure that Bornholm food producers received through the work of the food ambassador¹⁴. The participation of food producers at a travel and tourism fair in Copenhagen in 2004 as part of a common Bornholm tourism and food delegation was new in Danish tourism and food industry contexts. Destination Bornholm received a national tourism prize for this attempt to develop Danish gastronomic tourism concepts and products.

¹⁴ Interview with Mikkel Jensen, Development Manager of Destination Bornholm, September, 2008.

A major event with invaluable branding effect was a TV production with the title "The taste of Denmark" in which 'New Nordic Food' from thirteen regions in Denmark, the Faroese islands and Greenland was promoted by a leading Danish cook, Claus Meyer. The program was organized and supported by Visit Denmark, the national tourism promotion organization and Destination Bornholm coordinated the local process of recruiting firms for participation in the program. The Destination Bornholm and the participating food producers also paid a substantial amount of money to be included in the program, which also functioned as a general tourism promotion of the island. Two of the three firms studied in FKDs (FKD1 and FKD2) were included in the Bornholm program. It was made in 2006 and broadcast on a nation-wide Danish TV-channel in Denmark in June 2007 for an audience of an estimated 700.000 viewers, and again in June 2008, and has also been distributed internationally and broadcast in other countries.

"Visit Denmark wanted to show Denmark internationally as a place where food product development was done with great care. For the Bornholm food producers such an exposure through national TV channels had a very direct effect on demands and sales. For us in the tourism industry the program was an enormous catalyst for product development in the following years and was followed up by a lot of initiatives of marketing and product development, for instance using the recipes for regional food, created by Claus Meyer for the program." (Mikkel Jensen, Development Manager, Destination Bornholm, September 11th, 2008.)

The latest branding initiative has been the Food Festival for Bornholm food, organized in September 2008 and supported financially through the Bornholm LAG and private co-funding. The festival was organized by Destination Bornholm in coordination with the annual Bornholm Culture Week, an initiative run by the municipality of Bornholm presenting primarily national artists and performers within music, theatre, movies, etc. As a new element of this high-profiled cultural event 35 different 'eating experiences', especially developed for the occasion, were provided for local residents as well as visitors to Bornholm. Tourists were offered free transportation on the ferry to Bornholm to promote their participation in the so-called "shoulder-season".

Thus, branding of Bornholm food and gastronomy has been an integral part of tourism marketing and a larger place-branding of Bornholm. About the mutual benefits for food producers and tourism actors concerning such sector-crossing branding platforms, Mikkel Jensen had this comment:

"It maybe sounds as if it is tourism that has gained from the emerging new food sector. But you can turn the argument around and say that without a large tourism industry we would never have experienced such a growth in new regional types of food. I think even the most devoted representative of the food sector would agree on this. Due to its position in Danish tourism, Bornholm always had a good brand and the food producers have benefitted from this. They could tap directly from the Bornholm name." (Mikkel Jensen, Development Manager, Destination Bornholm, September 11th, 2008.)

Summing up, the crucially important task of enhancing the visibility and brand of Bornholm food on national consumer markets mainly involved dynamics of exploitation and contextualization of generic principles of

symbolic communication knowledge, adapted to the specific products, place and time. Also person-specific knowledge regarding social networking and exploitation of such for commercial purposes has been crucially important. Parallel to the development of synthetic product and technology knowledge and with the creation of experience elements related to food, the KDs related to branding have included only little R&D based knowledge and a dominance of exploitation dynamics over exploration and examination. However, as described in further detail in paragraph 1.2, the policy driven branding efforts have to a large extent been framed and directed through analytical approaches and knowledge. In territorial terms, the KDs have involved sector-crossing interaction of firms and organisations on Bornholm representing food, arts & crafts, and the tourism industry. Through this interaction an important platform for place branding Bornholm as a whole, i.e. as a place to run a business and a place to live, has been created. However, through the intermediating role of regional KIBS and the food ambassador, the KDs have also enhanced Bornholm's access to trend-setting Danish knowledge milieus through supermarket purchasers, national media, chefs etc. mainly located in the Copenhagen area.

1.2. The TKD and regional policies

Agriculture and food processing industries are sectors that are heavily subsidized and regulated by diverse regional, national, and not least EU policies, regarding, for instance, production outputs and prices, land-use and environmental planning, hygiene and safety of food, working conditions, animal welfare, health effects, certification, marketing, and rural development. The TKD of developing and branding Bornholm food not only has been framed by diverse policy initiatives but, as described in the previous paragraph, to some extent has been proactively initiated and driven by regional policy actors.

1.2.1 LEADER

Among the many policies and programmes that have affected the development of our TKD, the most influential has undoubtedly been the EU programme LEADER for rural development and diversification. The importance of LEADER is not connected with the amount of financial support but with its role in setting new societal discourses about food production and rural development in general. Since the initial launching in 1991 the LEADER program has represented a break with traditional production support to conventional agriculture and food supply chains and has launched new measures targeted diversification of rural economies as well as new bottom-up and networking principles for how to organise and implement policy initiatives. Although the LEADER program is no longer operating as an independent program, it has in practice been upgraded to form the third pillar of the EU Common Agricultural Policy program (CAP) 2007-13, including its territorial approach to rural development as opposed to the exclusively sector approach in previous CAP program periods.

The first LEADER program in 1991 was not implemented at the national level in Denmark, however on Bornholm LEADER money supported the establishment of LUIC (Landbrugets Udviklings- og Innovationssenter / Agricultural Development and Innovation Centre) as a project organisation under the auspices of the regional Agricultural Advisory Service Centre, run by farmers' organisations. Two consultants (of which

one was female) were employed to promote new initiatives for economic diversification and quality of life in the small villages and rural districts of Bornholm. According to one of the rural development consultants, Hans Jørgen Jensen, important parts of the initial work was to look abroad for inspiration regarding new small-scale productions and distribution of quality food and try to diffuse these external experiences and best-practices to local entrepreneurs who were engaged in (or considered) establishing new quality food productions. That the counselling and knowledge diffusion efforts of the LUIC staff actually contributed to encouraging local entrepreneurs into new development activities is exemplified by the FKD1 about a local farmer developing rapeseed oil. However, it is important to stress, that it is not possible to point to effects of singular policies, as the TKD describes a series of inputs over a long period, which can best be characterised as a long haul. In this process, it is also important to stress the significance of single actors, such as Hans Jørgen Jensen, who, in different capacities, have been drivers of the process over a number of years.

More formalised governance structures for promotion of regional small-scale food production were not launched until the LEADER+ period 2000-06. Since the start in 1991 but not fully developed and formalised until the last LEADER+ program period, a main element in the bottom-up LEADER principles was organisation in the eligible rural areas of EU of a so-called Local Action Group (LAG) and among the members of this group, a board responsible for defining the goals and priorities in a local LEADER development plan.

Due to this the active involvement of local communities in bottom-up development of rural areas and the building of new public-private partnerships has been encouraged. The Bornholm LAG that today forms the central organisational structure of the third pillar of the EU CAP, recruits its members among a variety of private and public actors engaged in rural development such as small businesses within different sectors, community, citizen and environment NGOs, educational and knowledge institutions, farmer organisations, youth organisations, public business services, etc.

Another very important effect of the formalisation and upgrading of the LEADER rural policy set-up is that the goals and priorities in the development plan of the LAG is approved by the Regional Municipality and integrated in regional policies and budgets, which provided the needed regional co-financing for LAG activities.

Since 2000 the Bornholm LAG has worked with "lighthouses", i.e. spearheads or foci points. One of these is the promotion of regional quality food and culinary heritage while another is arts & crafts. The "lighthouse" for food had two primary fields of activity: the establishment of a regional food development centre which included organization of a regional showroom for Bornholm food in a restored old mill, and the marketing of regional foods outside Bornholm.

Reflecting on the serious economic, social and demographic challenges on Bornholm, framing the regional policy discussions about relevant development initiatives, the chairman of the Bornholm LAG who is also chairman of the Association of Village Citizen Societies, covering the 29 local communities on Bornholm, has expressed:

“It was our hope that priorities on local food and arts & crafts and, very important, on cooperation between these two sectors, would create new firms and jobs in the rural districts. This was expected to contribute in maintaining the population in the small communities as well as the schools, shops and services. For many years these have been threatened by depopulation and by the powerful tendencies to centralisation in modern societies.” (Jörgen Hammer, chairman of the Bornholm LAG, interview April 24 2009)

Ordered by Bornholm’s Business Centre and co-financed via the LEADER+ program, a research analysis of the Bornholm food industry was carried out by the Centre for Regional and Tourism Research (CRT). While analytical research based approaches to development, as described above, have been very rare among private food-related actors on Bornholm, public and semi-public actors such as tourism organisations and local government during the recent two decades have ordered a long row of research and consultancy analyses to provide an analytical basis for decisions, formulation of strategies, launching of development projects etc. The report from the mentioned research analysis (Hedetoft 2004) pointed to the fact that the new group of small and micro firms based on quality food production were responsible for about half of total food industrial employment and that their profitability and value-added, despite entrepreneurial struggles of establishing more consolidated productions, was at least at the level of the biggest firms representing the conventional food industry. According to interview with regional politician, Annelise Molin, these analytical results were an eye-opener for the regional political establishment regarding the growth potentials of regional food producers. Until then, these producers had received indifference if not disrespect, as they were considered merely ‘alternative’ idealistic experiments with no serious regional growth potentials¹⁵.

Based on positive response from local food producers as well as the recommendations of the mentioned research report regarding strategic initiatives that might contribute to further development of the small-scale regional food sector, the LAG decided to employ a food ambassador for Bornholm in the period 2004-05 to enhance the visibility of food products from Bornholm outside the island. The successful branding efforts of this food ambassador, described in the previous section, constitute an interesting example of new types of public-private partnerships and new unconventional proactive roles of public sector initiatives. Upon completion of the food ambassador project, nine local food producers who had benefitted greatly from his work, in 2005 set up a strategic network, Gourmet Bornholm, the purpose of which is to continue the work the food ambassador started. Later more firms have been recruited as members of the organization that today (April 2009) has 13 members.

In the 2000-2006 period, the Bornholm LEADER+ program supported 21 projects, which all pertained to the development of collective frameworks for regional foods (such as the already described Regional Food Development Centre and the Bornholm Lifestyle Magazine), to a total amount of 19,25 mil. DKK¹⁶. Besides

¹⁵ Annelise Molin, interviewed 24.3.2009.

¹⁶ This is the total project amount, which was partially financed by LAG Bornholm, partially co-financed by the Regional Municipality of Bornholm as well as other sources.

the already mentioned projects, the LEADER+ program also supported, for instance, the elaboration of a regional foods website and development activities of the Regional Culinary Heritage network on Bornholm.

The financial resources available for LEADER promotion activities have been modest compared to other policy schemes such as EUs agricultural and structural funds. Nevertheless, little money has created big results. To some extent this is due to an appropriate timing of policy initiatives in line with overall trends in society and culture towards growing consumer interest – though not always articulated as market demands – in food with identity. As the chairman of the Bornholm LAG put it:

”It is not that we in the Local Action Group have been fantastically clever and competent. But we have got the famous sixth sense about what was moving in society and we have been anticipative regarding preparing and starting things before they suddenly became mainstream”. Jörgen Hammer, chairman of the Bornholm LAG, interview April 24 2009)

1.2.2 Other EU policies

As just mentioned, the Bornholm LAG prioritized support to collective framework building projects rather than support to individual firms. However, a number of applications by individual food producers have been supported by regional EU Structural Funds (ERDF) and in general, Bornholm’s allocations through diverse EU programs have been characterised by a high degree of coordination.

In the period from 2000-2006, the ERDF on Bornholm has supported our TKD in two ways:

1. Direct subsidising of SMEs within the quality foods sector on Bornholm. The ERDF subsidized the food production sector on Bornholm with a total budget of 16, 7 mil. DKK. All 11 subsidized food sector projects pertained to development of quality niche food products. In a majority of the projects, funding supported expansion of production apparatuses, which allowed the companies to expand their production and enter into “export” franchises with retailers. In three of the projects, the aim was to re-construct the SME with a new business plan. The effects of this support have not been analysed in depth, however, the relatively limited ERDF support allocated to the regional quality food sector and other food niche production at least correlates with growth in number of jobs and turn-over among the group of small food manufacturing firms (Table 1).
2. Indirect support to the quality foods industry on Bornholm through a business support scheme, which gave free counselling to support business strategies in SMEs. There was no particular focus on the foods and drinks sector – and no coherent strategic understanding of the business development counselling made available to SMEs. The idea was to support each business or enterprise on its own terms. Thus consultancy could take the form of support toward market know-how – or technical innovations. The regional instigator and responsible for the KIBS-supporting projects was the Bornholm Business Centre. Given our evidence from firm level case studies one could tentatively argue, that this ERDF initiative, perhaps inadvertently, helped build or develop a KIBS sector on Bornholm for the specialised food and drinks industry. A number of regional consultancy firms, e.g. Konnect Bornholm, Holmstrand Consulting, Born-appétit, and The Danish Food Guide, were all connected to food and drinks enter-

prises through the support of the Bornholm ERDF program and its projects to support business counselling targeted the development of SMEs.

Also the INTERREG program should be mentioned as an EU policy program affecting the TKD. The INTERREG program has supported the development of the interregional network association Regional Culinary Heritage. Through support from the INTERREG program, the Regional Culinary Heritage network has been developed and spread to rural regions in other EU countries. At the regional level, this initiative has been supported by the majority of food producers as well as a number of restaurants and caterers, who in turn have taken part in shaping and developing a distinct regional culinary heritage of Bornholm, as described before. On Bornholm, the initiative has been lead by the same persons who have functioned as secretariat and coordinator of the LAG under the LEADER program.

To conclude, as opposed to the very large funding that goes into conventional agricultural and fisheries programs via the EU Common Agricultural Policy (CAP)¹⁷, a little funding via LEADER, INTERREG, ERDF and other EU programs such as the Article 33 and the European Social Fund has gone a long way when it comes to development of niche productions and collective marketing platforms and governance structures. An evaluation of the EU CAP is certainly not the purpose here. However, taking into account the trends in number of firms, jobs and turn-over in agriculture and the food manufacturing industry as a whole on Bornholm (Table 1), we can say that the substantial EU CAP subsidizes seem to enforce rather than reduce the structural change and rationalisation in the sectors leading to still fewer jobs on still bigger units with still higher outputs (turn-over) - but not necessarily higher profitability. This trend in conventional food systems is among the issues that the LEADER program was launched to address.

1.2.3 Policies based on regional and state level interaction

Although the European and national levels have provided the framework to foster initiatives which have led to the development of a platform for regional food, the overall policy of promoting regional quality foods is an idea fostered on Bornholm. Many of the development policies for Bornholm have been developed and expressed locally: "...Bornholm society has striven goal-orientated and intensively to implement activities which seek to turn the negative development on Bornholm" (Lundtorp, 1999).

In 2001, as a result of a referendum on Bornholm to amalgamate the five local municipalities as well as the county, the Danish government made a declaration for Bornholm (The Danish Ministry of Economic and Business Affairs, 2001) which pledged that the state level of government would continue to support the development of Bornholm. The declaration mentioned a number of focus areas, one of which was to promote new initiatives within the islands' traditional competence areas. Regional heritage quality food was mentioned directly (The Danish Ministry of Economic and Business Affairs, 2001). The government decla-

¹⁷ Data provided via the data base Farmsubsidy.org (www.farmsubsidy.org), regarding the period 2000-2006 tells that Bornholm received just less than 715 million Danish kroner (ca. 95 mil. Euros) through more than 100 EU Common Agricultural Policy (CAP) schemes including LEADER. Considering the number of firms on Bornholm in the main targeted sectors of fishing, agriculture, and processing industries (Table 1), this is a substantial amount.

ration was based on the findings of a cross-ministerial work group in Bornholm, but the input to that work came from the regional level of Bornholm, i.e. the County of Bornholm's strategy *Perspectives for the Development of Bornholm 2001-2005*¹⁸.

The last policy scheme to mention affecting the TKD is the national policy on "erhvervsfremme" (Law on promotion of trade) and its regional implementation, which stipulates the setting up of so-called regional Growth Forums, including one on Bornholm. Bornholm's Growth Forum has adopted a Business Development Strategy 2007 – 2010 for the region of Bornholm (Bornholms Vækstforum, February, 2007) , and all EU structural funds (including LEADER+, when the program still existed) are only allocated in so far as the projects are in adherence with this strategy.

The pivotal strategy and work form, adopted by Bornholm's Growth Forum, is "growth through clusters", i.e. the establishment of regional work groups targeting selected regional business clusters. One of the six cluster work groups on Bornholm is the specialty food and drinks cluster, organised in the producer association Gourmet Bornholm. The workgroup consist of local business leaders, who had joined forces through the work of the former Food Ambassador project (LEADER+), and formed a formal network, the primary function of which is to create growth through collaboration on joint initiatives. The otherwise top-down method of creating cluster networks, which characterizes the other cluster work groups has met some impediments and is still in its formative stage, primarily due to the fact, that work group members need to define, what they wish to collaborate about (Villemoes, E. & Vive, P., 2008). This however, is not the case with the quality food and drinks work cluster, since it consists of SME owners, already organized in the Gourmet Bornholm network

Finally, it is important to note the role of public administration at both the national and regional level in the implementation of the Promotion of Trade policy. The policy has been lead on the national level by the Danish Enterprise and Construction Authority, which in cooperation with regional public servants, has worked proactively to promote 'Triple Helix' interaction by bringing together agents from private sectors, public authorities and knowledge institutions. On a geographically isolated island like Bornholm, this had been practiced previously, but the new discourse about cross-sectoral Triple Helix cooperation and the presence of representatives from the Danish Enterprise and Construction Authority promoting such collaboration, gave rise to a new understanding of the value and importance of such partnerships.

1.3. The TKD and research hypotheses

The distinction in the EURODITE conceptual framework between cumulative and composite knowledge dynamics and the hypothesised growing importance of composite knowledge seems highly relevant in understanding the studied TKD. The TKD can be seen as activities targeted development of a new system for production of food on Bornholm, alternative to the production system for standardised food that traditionally prevailed on Bornholm but in recent decades has experienced dramatic decline in employment. In the pre-

¹⁸ See Hedetoft, 2004 – included in the preface by former mayor of Bornholm, Thomas Thors.

liminary TKD report (CRT 2008a) it was hypothesised that the declining standardised industrial food productions on Bornholm were based on cumulative knowledge dynamics and the emerging small-scale specialised productions were dominated by composite ditto. This has been supported by the empirical findings.

The TKD of developing alternative food production and promotion systems for regional food has consisted in combination of knowledge from a variety of sectors, regions, and contexts. Knowledge from sectors such as food, tourism, restaurants, arts & crafts, marketing service, wholesale, retail, and media, has been eclectically provided and combined in development of new sector-crossing products and business models, new forms of marketing, new distribution channels etc. Culinary heritage knowledge from rural regions abroad has been provided and adapted to a Bornholm reality in the creation of a Bornholm version of regional food culture through interaction and cooperation between the above mentioned sectors on Bornholm. Also inputs of knowledge on the experience economy has been transferred from urban settings and been contextualised to Bornholm conditions.

Furthermore, actors representing different contexts and spheres of society (Firms, Markets/Networks, Policy/Governance, Science/Education, and Society/Culture) have interacted, resulting in the establishment of new channels for sharing and diffusion of different types of knowledge. Maybe due to the fundamentally composite character of knowledge dynamics in which use of existing knowledge rather than generation of new knowledge has dominated, actors from Science/Education has played only an indirect and distant role. Actors representing Policy/Governance have initiated new knowledge dynamics, mainly occurring in the context of Markets/Networks, by staging new regional development discourses and setting up new support schemes that encouraged regional networking and cross-sector cooperation as well as the development of a private consultancy sector. Both the proactive role of policy and governance actors in promoting diversification of the regional/rural economy and the intermediating role of KIBSs in bringing new types of valuable knowledge to the island have facilitated the composite dimension of the TKD.

The significance of composite knowledge dynamics for contemporary economic development is in line with the EURODITE hypotheses. However, we find it appropriate to stress that the distinction between cumulative and composite knowledge dynamics should be related to the time dimension of the product cycles in which the dynamics occur. In the initial phases of product cycles composite knowledge almost by definition will tend to prevail while cumulative knowledge may be dominant in later phases of consolidation, rationalisation and increased competition. The TKD reflects the fact that regional food in a Danish context is a new type of product, demanding new types of knowledge from a diversity of sources and regarding not only development of products and technologies but also market development, establishment of supply chains and distribution channels, building of promotion and support functions, etc. Hence, the composite nature of knowledge dynamics is not necessarily a permanent and ubiquitous characteristic of regional food systems.

The empirical findings also have supported the specific hypothesis of the preliminary TKD report (CRT 2008a) that the symbolic category of knowledge has been crucially important and decisive for realizing Bornholm's strong position on Danish consumer markets for regional food. Both at individual firm level and at collective regional level targeted and concerted efforts have been carried out to define and communicate a new story about Bornholm, to brand the island at national scale as a modern and innovative and yet au-

thetic place. In accomplishing this, professional symbolic knowledge was exploited and breakthroughs on the markets followed for new Bornholm food.

1.4. Understanding the related FKDs

The producers of Bornholm food basically can be classified in two groups: One group of 'classical' manufacturers of specialised, niche products that are distributed nationally and/or internationally to customers in retail, catering and restaurant sectors. And another group of firms based on direct sale to visitors on the site of production and adding of value to the physical products by creating experiences for customers. FKD1 represents the first group and is about the development of rapeseed cooking oil, while FKD2 represents the second group and is about the creation of a vineyard. The FKD3 case study presents quite a different model of 'regional food', not like the two others small-scale and artisanal in nature and not driven by Bornholm actors. The FKD3 concerns the innovation of specialised Bornholm pork meat as part of the highly standardised product portfolio of a multinational company with relatively weak links to Bornholm. In terms of knowledge dynamics, it could be argued that FKD3 exploits a brand which had already been developed by local firms and supported by regional development policies. Whereas FKD 1 and 2 are interrelated with local development policies as well as discourse on alternative foods, FKD 3 is a fine-tuned machine that is able to adjust to market trends within a relatively short time. In other words, our FKD1 and FKD2 paved the way via the Regional Culinary Heritage association and other local networks supported by the LEADER program and other local development funds, as well as through the systematic tooling of the media which created a Bornholm Food brand on which our FKD3 firm Danish Crown could base their new product. This is evident seen from a temporal aspect as well: whereas the Bornholm food brand took more than a decade to develop, the FKD3 Bornholm pork took less than 18 months to develop from idea until the product was in the supermarket display counter. Having said this, the FKD3 feeds back into the TKD: i.e. the development of a Bornholm quality food product such as Bornholm pork, when it is based on real taste quality, supports the Bornholm food brand and strengthens it in the minds of Danish consumers.

1.4.1. General synthesis of FKD1 and its relation to the TKD

FKD1. Development and marketing of rapeseed cooking oil from Lehnsgaard

Lehnsgaard (L) is an old family-owned farm on Bornholm that since the 1980'ies has been run by Hans Hansen (HH) whose primary production is rape crops. The seeds of the rape crop are traditionally used for industrial processing of low-value oil (Canola), utilized mainly for domestic heating and lighting, and the remaining organic material is pressed and used for animal fodder. Motivated by the wish to find ways of creating a higher value added to his rape crops and an occupation alternative to conventional farming, HH in the mid-1990'ies started developing ideas for new products and productions. As part of a process instigated by the LUIC (Local Agricultural Development Centre) and later the European association Regional Culinary Heritage, HH participated in interregional activities, which led to him buying a small oil-pressing

machine and started experiments on his farm to build a production of oil to be sold for heating of a local swimming pool. The work of the LUIC was part of a long policy process of boosting regional development through giving local enterprising people inspirational inputs regarding start-up of small-scale food production.

Simultaneously with HH's entrepreneurial development activities, EU funded R&D activities on "whole crop bio-refinery" were carried out on Bornholm by a regional R&D organization (Bioraf), involving an international network of universities and companies and coordinated by The University of Copenhagen. By combining analytical knowledge from chemical laboratory research with synthetic process engineering activities, Bioraf developed, among other things, methods and equipment for production of a rapeseed oil with healthy assets but without the chemicals, which cause a bad taste and are the reason for the traditional use of rape crops for non-food purposes.

In connection with a relocation of Bioraf in 2003, L bought the equipment and know-how for production of refined cold-pressed rapeseed cooking oil. In 2004 L was ready to send the oil on the market and thereby finally realizing a radical change of business model from agricultural growing of standard commodities for anonymous, global markets to manufacturing of a high-profile, quality product for end-consumers of private households, restaurants and caterers.

Despite the competitive healthy assets of the product compared to other cooking oils, commercialization of the Bioraf results was not straightforward but depended on development of supply chains and consumer markets in order to achieve the needed premium-prices required by relatively high production costs. Thus, marketing knowledge was crucial. As a former farmer, marketing was not a field with which HH had professional or practical experiences, however it was his central entrepreneurial idea that the oil should be produced on the basis of Bornholm supplies of rapeseeds and hence, that this was emphasized in marketing in addition to the health qualities of the oil. As a former rape crop farmer HH had knowledge about local suppliers of rapeseeds and was able to exploit this in the development of a Bornholm supply basis of the needed quality and quantities.

Building up the downstream relations to customers of distributors and retailers was more complicated. With financial support via a national LEADER+ project, L consulted a regional KIBS with expertise in marketing and communication. The KIBS elaborated a branding strategy as well as diverse marketing materials, emphasizing the authenticity of HH as farmer and entrepreneur and the Bornholm farm as the place of production. L exploited this in development of distribution and sales channels to supermarkets, restaurants, and caterers on Bornholm.

However, the important step of nation-wide distribution and sales via supermarkets followed not until a number of timely external incidents through which L got invaluable marketing effects, expressed in the fact that the volume of production increased from 35.000 liters of oil in 2004 to 300.000 liters in 2007. One external process, connecting L with highly important actors for diffusion of knowledge to consumers, was the launching in 2004 of a health campaign of the Danish NGO, The Heart Association, regarding cooking oils. Under the headline of "Rapeseed oil – the Nordic olive oil", a booklet distributed in 300.000 copies all over

Denmark promoted the use of rapeseed oil in Danish cooking and exclusively used the oil of L as the branded product.

Also in 2004, the employment of the above described regional food ambassador enhanced L's integration in external knowledge dynamics. A group of Bornholm food producers including L gained from the food ambassador's work of branding and positioning their products on a national scale as well as of encouraging them to more formalized networking. Thus, L was among the 11 founding members of the regional producer association Gourmet Bornholm. Today there are 13 members that besides of organizing common marketing and business development activities today forms one of six cluster working groups, organized by the Bornholm Growth Forum (see above).

1.4.2. Confrontation of FKD1 to EURODITE research hypothesis

The FKD1 of development and marketing of Lehnsgaard rapeseed cooking oil is an example of successful integration of, on the one hand, exploration and examination knowledge dynamics of formal research systems related to development of products and technologies, and on the other hand, exploitation knowledge dynamics of firms related to commercializing and market development. The larger knowledge biography in which L plays only the final role of commercialization and contextualization of mobile, technical knowledge is exemplary in terms of illustrating both the integration and complementarities as well as the independent contribution of analytical (chemical university science), synthetic (process engineering R&D) and symbolic (marketing and storytelling) knowledge dynamics. The symbolic knowledge dynamics of Lehnsgaard have their own eligibility, significance and value-adding role, independent from the initial scientific and engineering phases of developing the product and technology. While these firm-level symbolic knowledge dynamics were part of larger regional interaction processes through which mobile urban knowledge was anchored on Bornholm, the preceding analytical and synthetic knowledge developed by Bioraf research partners were 'footloose'. Besides being embedded in the rapeseed production technology and exploited by L, the research based knowledge was not anchored in the region.

Moreover, the FKD1 illustrates the interaction and complementarities of dynamics occurring in different development contexts. The commercialization dynamics of the firm in focus of FKD1 is temporally and opportunely embedded in and gains from dynamics in the contexts of Science/Education (development of product/technology), Society/Culture (contemporary social and cultural trends intermediated by the media and articulated on consumer markets), Governance (new policy discourses and support schemes including regionally coordinated branding), and Market/Network (interaction with KIBS and networking with other food producers on Bornholm).

The direct point of departure of L in technical R&D activities is atypical for the ways the new small-scale food productions on Bornholm in general have been developed. However, the characteristics of FKD1 of cross-contextual knowledge dynamics, i.e. interaction of actors belonging to different knowledge contexts, as well as the timely embeddedness of L in far-reaching knowledge chains is a general characteristic of the TKD of developing a new Bornholm food sector.

1.4.3. General synthesis of FKD2 and its relation to the TKD

FKD2: The creation of Lille Gadegaard vineyard

Lille Gadegaard (LG) is a traditional farm on Bornholm. The farmer, Jesper Paulsen (JP), in 1995 decided to change his activities from growing of strawberries to production of wine. Today LG produces a diverse range of alcoholic drinks including wines from berries (strawberry, blackcurrants and redcurrants), red wine from grapes as well as distilled alcoholic products such as wine liquor. However, the crucial competitive factor of the business is not related to the tangible products as such. LG is neither a traditional farm nor a manufacturing firm but a vineyard of which an important part of value-added stems from experiences, storytelling and services attached to the products and provided for visitors in the summer opening period. 90% of total sales stem from direct sales on the vineyard that besides JP has 5 employees. This business model heavily relies on the big number of tourists that visit Bornholm annually, and accordingly, on marketing as an attraction included in Bornholm tourism catalogues and tourism products such as guided bus tours as well as in the information systems of the Bornholm division of the European association Regional Culinary Heritage.

Like in the case of Lehnsgaard, the initial phase of identifying the precise business idea and developing the products and technologies was a long learning process starting in the mid 1990'ies and lasting at least 6-7 years. Thus, LG marketed the first strawberry wines in 2001 and the first red wine in 2003. The FKD2 concerns the long-lasting transition of the business model of LG since 1995 and until very recently from the one of a strawberry farm to the one of a vineyard based on activities cut-crossing the sectors of agriculture, manufacturing and tourism services.

The new knowledge basis for LG was developed through knowledge dynamics related to the three topics of wine products and production methods, vineyard experiences and design of visitor facilities, and value-based communication. JP was the central firm-level actor for the knowledge dynamics related to all three topics within which he had no educational or professional background in advance. However an innovative entrepreneurial personality and an open-minded approach in learning brought him far. JP's methods of appropriating knowledge differed from topic to topic. Synthetic knowledge about wine production was basically provided through searching for knowledge via the internet, personal visits to wine producers abroad on his holidays, and firm-internal learning-by-doing and trial-and-error.

The symbolic knowledge dynamics related to development of experiences, visitor services and value-based communication dimensions of the firm were characterised by more active contributions from and more intense interaction with external actors not least regional KIBS. In these fields LG benefitted from diverse policy support schemes available on Bornholm. Of central importance for the consultancy services was exploitation of knowledge regarding value-based communication and business models adapted to the 'Experience Economy' as well as symbolic design knowledge regarding organisation and decoration of the farm buildings including cafe, catering and shopping facilities. In this particular field also the regional traditions for tourism and arts & crafts businesses with workshops open for visitors, functioned as an inspiration basis exploited and adapted to a vineyard business concept. For instance, a group of 20 students at the

Glass and Ceramics School on Bornholm - a national further education institution with 90 students from all of Denmark, providing practical training in the crafts of glass blowing and ceramic production as well as theoretical elements regarding industrial design, business organisation, marketing etc. - made a project about LG, providing useful inputs regarding branding values, experience elements, etc. In the final phase of identifying and implementing the results of the previous phases in a more coherent and consistent concept for the vineyard and its diverse functions the main actor was a local private consultant who later was employed in the firm.

1.4.4. Confrontation of FKD2 to EURODITE research hypothesis

A central characteristic of the FKD2 is the combination of firm-internal (personal) learning processes and firm-external knowledge sources. Some of the sources were intra-regional such as KIBS and actors from related business sectors that mainly provided symbolic knowledge about experience creation, value-based business models and communication (however, often mobile knowledge originating from urban centers). Other sources were extra-regional and mainly were used for provision of synthetic product and technology knowledge. Via a variety of learning and social interaction mechanisms the business entrepreneur absorbed, examined, combined and contextualized pieces of knowledge from many places in the world that to him seemed useful for realization of his business goals.

In this sort of entrepreneurial person-based knowledge dynamics the main challenge in terms of business success is not the one of getting access to useful knowledge per se but the one of selecting the most appropriate sources, extracting the most relevant pieces of knowledge from these sources, and adapting and contextualizing them in a coherent manner to region-specific conditions such as climate and tourism markets. The access to competent regional business consultancy, supported by regional and national policy schemes, played a pivotal role in facilitating the entrepreneur in overcoming this challenge. In conclusion, the FKD2 illustrates the business opportunities connected with utilization of a growing body of mobile knowledge in the knowledge economy and the importance of KIBS for diffusion and contextualization of this knowledge.

This case also illustrates the interrelationship between the existence of institutions of higher education and knowledge types. The trail-and-error process which characterizes a good deal of the knowledge processes of the synthetic knowledge type in FKD2 is mirrored by the lack of local knowledge institutions within the food production and processing fields on Bornholm, whereas the predominance of symbolic knowledge types in the case is mirrored by the presence of the Glass and Ceramics School in the region.

1.4.5. General synthesis of FKD3 and its relation to the TKD

FKD3: Development and marketing of Danish Crown's Bornholm pork meat

The last FKD concerns a company that unlike the two small firms studied in FKD1 and FKD2 is not a part of the Bornholm food platform and has not taken part in establishing the new brand of regional food from

Bornholm. Rather, as mentioned above, the company exploited this brand after it had been established by Bornholm actors. FKD3 is about the innovation project of Danish Crown (DC) of developing a specialised production of Bornholm pork meat alongside their standardised production lines. With about 25.000 employees DC is the largest meat (beef and pork) processing company in Europe and the second largest in the world. It is cooperatively owned by Danish pig farmers. DC has a production unit with 220 employees on Bornholm – a slaughterhouse for primarily pigs, which ships its products on to other DC production units for further processing.

While FKD1 and FKD2 are supply-driven development processes of individual micro firms realised within frameworks of virginal markets, distribution systems, and support and science institutions, the FKD3 is a demand-driven innovation project occurring within a framework characterised by economically strong players, well-defined supply chains and customer relations, and large national science and consultancy institutions. FKD3 integrates actors and activities all along a well-established supply chain from farmers to supermarkets. The case illustrates the response of large conventional food processing companies to the growing consumer demands for specialised high-profile products by, among other strategies, engaging in innovation of products with a 'regional identity'.

The FKD3 takes its start in June 2006 when one of DC's biggest customers on the national market, the supermarket group COOP, contacted DC and requested a specialty pork meat product to be distributed on nation-wide scale through one or more of the supermarket chains belonging to the group. This request was not based on formal research analyses on consumer demands but on the professional intuition of COOP managers as well as on feedback from butchers and sales staff in COOP supermarkets who were directly in contact with consumers.

First phase was to define the overall parameters of the new product: what should be the defining characteristics, which would make the new product and its production feasible? COOP had initially requested an organic pork product, which in terms of development time, was not feasible. The option of focusing on the taste aspect was introduced by DC and agreed upon by COOP as a central priority for further development efforts. Such discussions basically involved symbolic knowledge about trends in Danish consumer markets and methods to address such trends via branding values and marketing.

Bornholm came into the picture, because DC previously had started but not fully realized a project on developing a specialised pig production on Bornholm. This project had built up cooperation between DC and a number of pig farmers as well as an agricultural consultant, employed in the Agricultural Advisory Service centre which is a part of nation-wide but decentralized system of agricultural consultants.

In the spring of 2007, DC and COOP visited Bornholm: they noted the emerging branding of regional quality food products from Bornholm and took Bornholm's general positive brand, based on many years as a distinct tourist destination in Denmark, into account. Partly due to the partners' visit to the small-scale cooking oil producer Lehnsgaard who emphasized the need to base the marketing on more substantial product qualities than the pure geographical origin of production, DC and COOP decided on the following parameters of the new product: 1. that the targeted Bornholm pork meat should be provided a clearly identi-

fiable better taste than competing standard products on the market and that 2. It should be named Bornholm Pork/Pig and tie production as much as possible to Bornholm.

Next phase was a firmly structured process wherein the concrete concepts of the product and its production were defined. Actors involved where all the different links in a pork meat supply chain from farmers and agricultural consultancies on Bornholm, the headquarter of the industrial processor DC in Jutland/Denmark, the Danish Meat Research Institute (DMRI) located in the Copenhagen area and owned and run by the Danish meat industry, to the retailer COOP with headquarters in Copenhagen. A main element in this was the interaction between the pig farmers and the agriculture consultant on Bornholm regarding practically, economically and legislatively feasible production methods, based on the directions and wishes of COOP as the customer.

Another crucial element was research based knowledge inputs from DMRI regarding, for instance, factors contributing to good taste of meat and, mainly in later phases, costs consequences of different aspects and dimensions of the product and production concept under elaboration. The exploited research knowledge was highly codified and often had the form of statistical tables and mathematical formulas, allowing for precise calculations of the expected cost and logistical effects for the individual links in the supply chain of farming, processing, distribution and sales of changing certain aspects in the farming link (such as the space for the pigs and their slaughtering weight). The phase was completed when a complete production manual with all specifications of the product were agreed upon by COOP, DC and the farmers.

In the final phase marketing materials including a special product logo was made by professional marketing staff from COOP and DC. An important element in the marketing strategy of COOP was the organization in the months before market introduction in March 2008 of an internal education and information campaign for the staff in the meat departments of the 80 supermarkets of the COOP chain, Kvickly, who in the end was chosen as distributor. Explaining the ideas and content of the new product concept and enhancing the professional interest and knowledge of the butchers and sales staff in the individual supermarkets with face-to-face contacts to consumers was considered decisive for the success of new product introductions.

Despite its premium-prices of 10-15% compared to conventional pork meat the Bornholm Pig from start was a market success. The initial production volume of 200 pigs weekly has been increased by 30% twice. Hence, more than 10% of total pork meat sold in Kvickly today is from Bornholm pigs.

1.4.6. Confrontation of the FKD3 to EURODITE research hypotheses

The FKD3 mirrors contemporary knowledge dynamics of large companies in mature industrial sectors like the conventional food industry. The difference in both internal resources and external, institutional resources characterising, on the one hand, a large conventional food company like DC and, on the other hand, small alternative food producers like the ones studied in FKD1 and FKD2, is striking and causes huge differences in knowledge dynamics. Occurring within the framework of a national agro-food system with a high degree of vertical and horizontal integration and well-established supply chains geared to opti-

mize the efficiency of production, the FKD3 is characterized by a high degree of cumulative knowledge dynamics.

Indeed, due to the requested demand for a new type of product, the innovation project encompassed phases of combinatorial knowledge dynamics where knowledge of actors external to the established supply chain were searched for. An example of this is the interaction with specialized small-scale producers on Bornholm regarding creation of food with regional identity which interestingly illustrates that inspiration for innovation and flows of knowledge not always spring from the large to the small firms but in the food sector of today often have the opposite direction. However, the project of developing a production concept for Bornholm pork meat fundamentally was accomplished by exploiting knowledge accumulated and developed through decades and stored in industry research systems for reactivation. The fact that generic knowledge could be applied for specialization purposes shows the limitations of conventional large-scale food industries in how far they can move away from standardization. Rather than following a specialization strategy DC follows a product diversification strategy.

Thus FKD3 is atypical for the TKD and, indeed, Danish Crown (FKD3) does not partake in any of the built up regional food production networks (Regional Culinary Heritage or Gourmet Bornholm) as does Lehnsgaard (FKD1) and Lille Gadegaard (FKD2). Indeed, to some of the small-scale food producers on Bornholm, activities such as those of Danish Crown described in FKD3 represent an indefinable threat: the exploitation of the Bornholm food brand without anchoring on Bornholm.

2. Possible future stakes about the TKDs in their (regional and broader) context

2.1 The observed KDs and the regional context

Despite the territorially far-reaching knowledge dynamics characterising the development of productions and promotion frameworks for Bornholm food, the region of Bornholm has played a crucial role both in terms of its geographically determined development conditions and in terms of its administrative status allowing for region-specific policies and support schemes.

For new Bornholm food producers Bornholm is an important and integral part of the products. The French concept 'terroir' captures an understanding of the territory as a combination of culture, history, tradition, production process, terrain, climate, and local knowledge systems that all is embedded in the food and drinks products. This concept mainly is applicable for studies of Southern European food systems based on richer local and regional culinary traditions and less relevant for Northern European food markets and production systems in a historical perspective have been more functionally oriented (e.g. focusing on safety and health of food) and driven by an understanding of food as commodities rather than cultural artefacts

(Parrott et. al. 2002). Nonetheless, although not articulated as a keyword for a regional food strategy¹⁹ the terroir concept holds some validity for understanding and describing the efforts of developing Bornholm culinary heritage from its point of departure in traditions mainly within smoking of herrings. This for instance is reflected in the cross-sector interaction with related sectors of tourism and arts & crafts, and the integration of Bornholm food in a larger place-branding of the island focusing not only on food but on broader social, cultural and economic traditions and potentials. The Bornholm 'light' version of the terroir concept permits inclusion of products without a basis on local recipes or resources, such as chocolate and caramel, based on the idea that living and working on Bornholm gives time for careful product development and artisanal craftsmanship.

The knowledge dynamics also are profoundly affected by other geographically determined characteristics of Bornholm: peripherality, insularity and rurality. Due to these characteristics Bornholm has weak institutional frameworks for research, innovation and knowledge generation and instead a higher dependency of informal interaction and abilities to connect to relevant expertise in- or outside the region.

In the branding of Bornholm the distance to big urban centres, the propinquity to a multifaceted nature, the quiet and safe atmosphere etc. are emphasized, however turned into competitive advantages for business development and quality of life of creative entrepreneurs and artists. As any other place-branding, this picture obviously is tendentious. Nonetheless, it might hold an element of truth in connection with development of regional food and culinary heritage as well as with the about 100 arts & crafts businesses on the island. It is a real question whether the lacking institutional conditions for formal R&D has been a disadvantage in the process of creating Bornholm food productions in which distance to formal science and university systems of urban areas seems not to have been a critical problem. However, there seems to be a connection between the presence of the Glass and Ceramics Schools and the predominance of symbolic knowledge types in the TKD and, on the other hand, the recessive stance of synthetic knowledge types and the lack of educational institutions which produce research on for example food and food production.

The KIBS sector on Bornholm also seems to function differently than in urban areas. Due to the insularity and the smallness of the island, we have found that many of the firms which function as KIBS in our FKDs and in the TKD, are the same people. Thus, the same consultants have been present in contact with a number of small-scale firms in the emerging food sector even though they do not offer food-specific consultancy work. Thus a cumulative knowledge process takes place in the KIBS sector, presumably to a larger degree than in a less-insular setting, where firms would be more spoilt for choice concerning consultancy work.

An analysis of the location of agro-food sectors in Denmark as a whole (Manniche, 2008) indicates that the location of small-scale food industries do not in general correlate with degree of urbanisation. Small food industries seem to locate and grow only in certain parts of the country such as Bornholm, in areas close to Copenhagen, and in parts of Jutland, indicating the significance of local-specific factors.

¹⁹ However, according to interview with Georg Julin, employed as Food Ambassador for promotion of Bornholm food, he implicitly used the terroir concept in his work.

The empirical findings from Bornholm have uncovered a number of location factors that might explain the emergence on Bornholm of new small-scale food productions. One is the long-termed and proactive role of regional policy actors, starting promotion efforts already in the early 1990'ies. Another might be the presence of persons with certain entrepreneurial characteristics that seem to be of significance for establishment of specialised quality food such as a normative and not purely profit-oriented motivation, a practical rather than theoretical approach to business development, and a certain element of charisma and creativity.

Particularly in peripheral areas, individuals of persons, firms, and organisations, showing the way to go, making a good example, are crucial. The few old specialised food producers on Bornholm, existing long before the take-off of the new trend of regional food, as well as the two entrepreneurs of the firms studied in FKD1 and FKD2 are two of the 'heroes' praised in one of the above quotations of Bornholm interview persons. The micro size of most firms means, as documented in the FKD1 and FKD2 case studies, that the business owners play a central role in the firm-internal knowledge dynamics as well as in the interaction with external actors. In some cases, even products and marketing are person-dependent and relying on the business owners as concrete persons with a face and a story to tell and a family to show on the homepage. This element of person-dependency however, rather results from the applied business models than from the peripheral development conditions of Bornholm.

A similar degree of person-dependency characterises knowledge dynamics and activities concerning the public policy and governance actors. For instance, the present secretary for the Local Action Group for rural development and diversification, Hans Jørgen Jensen (HJJ), (see paragraph 1.2), has been a driving actor for promotion of regional food and culinary heritage since the early 1990'ies. By launching and coordinating regional activities, organising study tours to other parts of Denmark and abroad, bringing new knowledge and best-practices to relevant actors on Bornholm, and more lately by transferring best-practices from Bornholm to other rural areas of Denmark as an invited speaker, HJJ has achieved a widely acknowledged position as one of the key factors behind the emergence of a new Bornholm food sector. His central role is not only appreciated on Bornholm but also - according to interview with Rita Munk from The Danish Ministry of Agriculture - at central governmental level among staff in national authorities and politicians engaged with national and EU rural policies including development plans for Local Action Groups.

Such person-dependency can assure a certain amount of continuity in activities and knowledge accumulation but also makes the knowledge networks highly vulnerable for disruptive losses and fall-backs since the accumulated knowledge only to a limited degree is embedded in regional organisations and public institutions.

2.2 The KDs and sectoral dynamics

We already several times have touched upon overall contemporary changes and dynamics in the food sector and how the TKD relates to these changes and dynamics, and thus, only a few points will be summed up here.

On the basis of reviews of research literature, industry reports, newspaper debates, and other relevant materials, conducted as part of the elaboration of the EURODITE WP3 food sector report (Manniche 2007) it is our judgment that the studied TKD is typical for one of the two main directions of change in agro-food systems in Western countries of today. Alongside the strategy of continuous standardisation, technological rationalisation and productivity increase, chosen to compete on price and efficiency factors in meeting consumer demands for cheap products, another strategy of specialisation and product diversification is increasingly chosen to meet other consumer demands for food with more exclusive qualities and identity (Gehlhar & Regmi 2005; CIIA 2006; EMCC 2006). The development of Bornholm food and culinary heritage represents the latter strategy. And in a Danish context these activities are not only typical but to some extent pioneering, not least regarding the concerted efforts of private and public actors of branding and enhancing the visibility of Bornholm food on a national scale.

The three cases chosen for firm-level studies were deliberately selected because they represent three different business models and three different responses to contemporary changes in food and drinks markets, however all following a specialisation strategy of meeting growing demands for high-profile products with a clear identity. Furthermore, the firms were deliberately selected to be able to investigate knowledge dynamics in the 'alternative food model' respectively the 'conventional food model' as these are opposed in numerous research analyses (Watts et al. 2005; Renting et al. 2003; Parrott et al. 2002; Fonte 2002; Marsden et al. 2000; Morgan & Murdoch 2000). Hence, two of the selected firms are small, locally owned, newly established firms representing the alternative model and the third is a large multinational company representing the conventional model.

One of the questions in focus of increasing research interest is to what extent and in which ways alternative food networks actually are alternative and not just complementary to conventional food networks (see for instance Sonnino & Marsden 2006; Watts et al. 2005; Goodman 2002). The empirical data has provided insight that might have a say in this debate. The FKDs indicate that representatives of the two food models indeed differ in supply bases and sales and distribution channels, however they do not constitute two totally separate systems. Alternative producers – at least in studied cases of regional food production – are often supplied with raw materials from conventional farming and wholesalers that also supply the conventional processing industry. And alternative producers, obviously mainly the group of classical manufacturers of artisanal niche products, often distribute and market their products via conventional retailers (supermarkets).

A similar picture is drawn regarding the knowledge networks and the knowledge dynamics in which producers take part. On the surface the alternative and conventional models diverge in two very different knowledge worlds. Conventional producers heavily rely on cumulative knowledge dynamics while alternative producers rely on composite knowledge dynamics and the type of actors, networks and milieus contributing to these knowledge dynamics are highly varying. However, the case studies have revealed interfaces for knowledge flows between the models. One example is the large conventional company's active interest in learning from small alternative producers as part of its innovation of a regional product. Another is the investments in large-scale industrial process equipment of some alternative producers and the related uptake of knowledge of conventional producers. On top of this, the crucially important knowledge on

marketing and storytelling is, though contextualised and exploited differently, basically common, generic and applicable in both models.

2.3 The relations to other places, to other geographical scales and within a more mobile world

The TKD is affected by the peripheral conditions of low levels of formal competences and knowledge institutions and actors that are users and recipients in national and international knowledge chains rather than generators and distributors of new knowledge. Nonetheless, in terms of establishing new external links and relations to other places, the regional change processes in focus of the TKD represents a move away from this traditional position.

The scale-oriented standardised farming and industrial processing that previously prevailed in the agro-food economy on Bornholm, mainly participated in national and international food supply chains as low-cost, resource based suppliers of standard commodities for further processing and distribution elsewhere. The interaction with external customers and other actors primarily were organised around contractual deliveries of goods and services and only rarely encompassed informal networking and knowledge creating and sharing activities.

The TKD documents new opportunities for peripheral areas of breaking with such types of external linkages and interaction forms. The 'cluster' of small-scale regional food productions indicates new rural opportunities for value-adding business activities with closer more direct linkages to profitable urban knowledge milieus and markets as well as to other rural areas at a national and international scale. The presence of KIBS with expertise in communication, marketing and branding is a regional development condition that is not common for peripheral areas and that has facilitated transfer and anchoring of knowledge from urban centres. These knowledge dynamics have contributed to the development on Bornholm of products, marketing, and business models that are adapted to satisfy the growing consumer demands for experiences, storytelling and high-profiled products.

The TKD is deeply embedded in processes that are out of control of Bornholm such as social and cultural change processes of Western societies with epicentres in large metropolitan areas, connected with demographic development, increased standards of living, individualization of identity formation, new working conditions, family structures, daily life and holiday patterns. Medias have played a crucial role in articulating and translating such changes into concrete consumer demands expressed on the markets. Furthermore, EU policy actors have set new agendas on rural development and food production models and have launched new legislative, financial and other governance instruments to support development in politically wanted directions, such as rural economic diversification.

Having said this it is important to stress that the driver of knowledge dynamics was the initiative of regional actors to search for knowledge, not active diffusion of knowledge by external actors. The emergence of a regional food cluster on Bornholm was not driven by external interests such as big companies looking for

low-costs or other location advantages. Rather it was a regionally initiated and coordinated process in which regional actors benefitted from searching, learning, anchoring, using and sharing knowledge, enabling them to create profitable productions and links to markets. To a large extent, knowledge dynamics are bottom-up entrepreneurial and governance processes, involving adaptation of knowledge to the specific Bornholm context.

Thus, the main enabling factor for more advantageous external relations is the fact that the studied knowledge dynamics are regionally pulled (bottom-up) and not externally pushed (top-down). As a result of these regional bottom-up processes Bornholm has achieved an economic renewal process that indeed has not fundamentally changed the position as a small peripheral region of Denmark. However it has contributed to a change of the regional self-image from an island marked by economic crisis, depression and dependency of external subsidies and support to an island with certain potentials and resources to create its own future. This new self-confidence truly is an important result.

2.4 Suggested adaptation of regional policies

As described above, regional policy has affected the TKD immensely - maybe primarily through the setting of new policy discourses and development agendas rather than through direct financial support. The issue of rural development and economic diversification has attained increasing centrality in EU policies mainly by integration of a territorial perspective in the EU agricultural policies and by launching of local bottom-up governance structures based on Local Action Groups (LAG). This development at the EU level has been reinforced by policies at the regional level, such as the Region Municipality of Bornholm and the Regional Growth Forum (although this is part of a national regional policy scheme, cf. paragraph 1.2). Promotion of small-scale productions of food and drinks has become a central priority of regional policy actors. For instance, co-financing of EU LAG food promotion activities has been integrated in municipal budgets. The strategies and initiatives of the Bornholm LAG have successfully encouraged sector-crossing cooperation between food and arts & crafts businesses and have focused on collective networking and place-branding activities rather than on support to individual firms and technological issues.

However, it is an open question to what extent the goals, priorities and means of regional policies, successful in the phase of establishing commercial Bornholm food productions, should be maintained in the coming phase of consolidation, further product improvements and increased competition from other Danish regions attempting to enter national markets for regional food and challenging Bornholm's position.

As discussed earlier, the weak institutional conditions on Bornholm for education, innovation and knowledge development in relation to food were not a big problem in the first phase of getting a development on the track. But maintaining and further developing the national position in specialty foods might address the need for other types of knowledge and expertise, not least within the synthetic product and technology fields that were less critical in the start-up phase.

On the island there are basic vocational educations on cooking, catering and nutrition, primarily supplying the regional tourism industry and catering units of public institutions. With only 43.000 inhabitants Bornholm surely is too small for specialized types of further educations and vocational institutions for food related activities, especially because the regional food productions diverge in many directions and are not collective oriented towards, say, cheese production. But since Denmark as a whole is lacking educations specifically targeted the needs of small-scale, artisanal food productions, it could be an option to address central government authorities regarding the establishment of such a national education on Bornholm, recruiting students not only from Bornholm but from all of Denmark. Despite the big regional traditions for arts & crafts businesses, the before mentioned Class and Ceramics School is not a regional but a state institution, recruiting students from all of Denmark as well as from abroad. A similar model might be applicable within educations on artisanal food production.

However, there are serious obstacles for the realization of this. In general, Danish students are reluctant to graduate outside the largest cities (or alternatively, in the region they are born) and in a historical perspective the establishment of the Glass and Ceramics School is the only example of large-scale educational investments on Bornholm by central level authorities. The current educational policy in Denmark is to merge and centralize universities and other institutions for further and vocational education in a few regional centers with 'critical mass' and building a new education on Bornholm would not fit into this policy.

Another relevant policy field regards branding. Due to the long tourism traditions Bornholm had a well-established brand in the Danish population long before the take-off of new Bornholm food. This definitely was a conditional factor for the emergence and success of Bornholm food producers and facilitated the branding of food as an integral part of a larger place-branding. The profound and professional competences and traditions for branding that characterize not only the public sector but also a variety of private sectors are regional assets have clear competitive potentials and should be exploited also in future.

Presently, however, the Regional Growth Forum on Bornholm is already engaged in preparing a new branding strategy for Bornholm with the headline of "Bright Green Island, 2014" and with the objective of attracting citizens and business from the rest of Denmark. Food activities are not particularly focused upon but are implicitly a part of the 'unique and creative Bornholm' that the branding strategy is targeted to address and promote. Considering the smallness of the Bornholm economy as well as real interfaces of cooperation and knowledge flows between a variety of sectors such as 'regional' food, arts & crafts, tourism suppliers, restaurants and caterers, marketing and business development firms, it seems highly reasonable to identify and pool such functionally related activities in a sector-crossing development platform alongside or maybe even instead of promotion of more narrow sector-specific industrial clusters such as agriculture, food industry and tourism.

An example of the relevance of enhanced cross-sector coordination is expressed in a local debate about the feasibility of public planning so that smelly, large-scale pig housing systems may be placed away from tourist roads to avoid the clash of co-existing policies regarding, on the one hand, increase of conventional agricultural production outputs and, on the other hand, branding of Bornholm as an ecologically sound tourism destination and a region with a high profile in regional quality foods. One may take this a step further

and discuss the subject of clashing policies in general. For instance, nationally defined land-use directives, setting the criteria and procedures for approvals of farming investments and production systems, should be compatible with regionally defined development goals and strategies.

In recent years there has been an increasing international debate about a 'new rural paradigm' (OECD 2006; van der Ploeg & Renting 2004; Goodman 2004). This paradigm shift is proclaimed to be signified by increased economic diversification of rural areas and changes in rural policies from a focus on sectors (agriculture and fishery) and subsidies to a focus on rural territories and investments in development projects within a broader range of activities including natural environments and landscapes, cultural resources, tourism and other service sectors.

The ongoing process of massive restructuring in the Bornholm food economy, i.e. the employment decline in conventional standardised production systems and the simultaneous growth in alternative specialised production systems, might be considered an illustration of such a paradigm change. However, although small-scale productions of 'regional food' have achieved a considerable weight in the Bornholm food economy the way still seems to be long before a paradigm shift is real and not just an academic buzz word. In particular there is no sign of a *general* move away from a 'productivist' development model (Goodman 2002 and 2004) in the Bornholm agricultural sector that experiences continuous structural changes towards still bigger production units with still fewer employees and a still stronger integration in global markets and supply chains. Furthermore, despite certain flows of raw materials and potential interfaces of knowledge exchange between 'conventional' and 'alternative' production networks, as indicated by the analyses, their institutional and policy frameworks to a large extent form two separated systems with only little interaction. A higher degree of integration of regional policies targeted the two 'worlds' of conventional and alternative food would be beneficial for actors in both 'camps'.

2.5 Synthetic findings about gender issues

While farming and fishing are heavily male dominated sectors, 42% of the employees in Bornholm's food processing industries in 2007 were female (source: Statistics Denmark). In particular the fish processing industry was an important employment sector for women on Bornholm, however primarily in the form of unskilled, low-paid jobs. The dramatic decline during the last 15-20 years in traditional standardised food processing industries, and in particular fish processing, has hit female employment most severely and from 1993 to 2007 the number of employed women was reduced from 842 to 370. This has caused high unemployment rates among women, since only few alternative jobs for this group of unskilled workers with experiences exclusively related to highly specialised manual routine tasks have been created in other sectors, including the newly established niche food productions. Hence, the overall restructuring process in the Bornholm food industry of has affected female employment severely.

More important to stress in this case study, however, is the dominance of men in the TKD. It should be noted that a systematic analysis of the entire new food sector on Bornholm based on a gender perspective

have not been carried through. The following is based on the people we have come directly or indirectly into contact with in this research.

There is dominance of men among the persons that have been involved in the studied knowledge dynamics, in particular in managing, decision making positions such as the entrepreneurs who have established the new food firms. However, there are quite a few family firms, where husband and wife run the firm together. For instance, of the 16 firms included in the tables on page 3 of this report, 11 are owned by men, while five are family firms, owned by a couple; none are owned by a female alone. We have no in-depth knowledge about the family firms and how the firm-internal division of labour is played out. This same structure occurs in the KIBS sector, which is dominated by small, often single owner/employee firms, where the owner is male. In KIBS firms with more than one employee we have found several cases, where there are female employees, though not at management level. In general, at the TKD level it is fair to say that the most visible promoters of new Bornholm food with a few exceptions are males. This is true at the firm level, as well as in the contexts of market/networks, policy/governance²⁰, science/education, while in the context of society/culture women seem to have been more central as consumers and media trend setters.

Concerning knowledge types, we find a predominance of females in the symbolic knowledge sphere, almost a total dominance of males in the synthetic knowledge sphere and a dominance of males in the analytical knowledge sphere. Concerning the symbolic knowledge type the female students at the Glass and Ceramics School have played a significant role in our FKD2; in the food journalism sector, we have spoken to or been informed about a number of female journalists, who have specialised in the food sector. In our research we have come across a number of female cooks who are linked to firms and produce special recipes for that firm (e.g. the FKD3 and the Bornholm firm “Den Gamle Skole Honning”). These statements are by no means based on systematic analysis.

Overall, the food sector and food supply chains are characterised by high male dominance. Women do not hold central positions, do not tend to take part in business decision making and contribute professionally primarily in marginal roles of marketing and design (traditional female jobs). However, several studies (Bech 2005; Halkier & Holm 2008; Tobiassen 2005) indicate that women are important at customer/consumer side (consumption), and in this sense can be interpreted as the drivers of the development. For instance, Bech (2005) has carried out an analysis of consumer values and practices amongst 9000 consumers in Denmark, Norway and Sweden. They have set up a system of nine archetypes when it comes to food consumption. If “older” consumers (23% in all), who tend to be traditionalists (whether male or female) are excluded, a majority of female consumers are characterised as two archetypes: “The impulsive” and “The explorers”. These two archetypes account for 30% of all consumers and 63 and 66% of them, respectively, are female. “The impulsive” are defined as having a pragmatic approach to food, find cooking fun and often try new products and recipes. They are to a high degree responsible the people re-

²⁰ It should be mentioned though, that one of the rather few regional politicians who have been actively engaged in and proactively have contributed in setting the agenda of ‘alternative’ Bornholm food and rural development, for instance via a seat in the Bornholm Local Action Group for the EU LEADER program, is a woman, Annelise Molin.

sponsible for food shopping and cooking in their homes and the group encompasses the largest share of families with children (17%). “The explorers” are food enthusiasts, who find health, news about food and organic food play an important role in their lives. They spend time with their food preparation and are often the ones responsible for shopping and cooking in their families. This study supports the conception that target groups for the New Scandinavian Cooking trend, including the new regional food products from Bornholm, are female.

3. General conclusions

3.1. Combinatorial versus cumulative KDs, territorial relations, mobility and anchoring

The EURODITE conceptual framework constitutes a highly complex basis for empirical analysis of knowledge dynamics. To investigate the given definitions of knowledge types, knowledge phases, and knowledge contexts and relate them to spatial, sectoral, political, and gender dimensions of economic development as well as to a set of theoretical hypotheses regarding contemporary regional and economic change processes, has been an analytical challenge. Most parts of the conceptual framework have proven to be relevant and useful, however its complexity and multidimensional nature makes it difficult to focus the empirical analysis and to extract the essence of its theoretical implications in a few pages.

The empirical findings of the TKD case study have been explicitly confronted to parts of the EURODITE hypotheses already in paragraph 1.3, mainly regarding the significance of composite knowledge dynamics, and more indirectly in other paragraphs. We shall not repeat these remarks but conclude the analyses by addressing the three hypothesized typologies of territorial knowledge dynamics, elaborated on the basis of the dimensions of generation vs. use of knowledge, proximity vs. distance knowledge interactions, and mobility and anchoring of knowledge. All three dimensions seem relevant and central for summing up the TKD.

3.1.1. Generation vs. use of knowledge

Due to the maturity of product cycles and technological systems in the studied sector and due to the peripheral location with only weak institutional science and innovation frameworks, regional firms only to a limited degree have generated fundamentally new knowledge for instance by means of formal R&D projects or other sorts of efforts to systematically develop new knowledge or insight. Overwhelmingly dominating in the private sector is absorption, combination and use of existing knowledge, for instance synthetic knowledge of geographically far-reaching professional networks of expertise regarding culinary heritage and production technologies, or symbolic knowledge and concepts for experience economy, value-base business models, and tools for communication, marketing and branding mainly stemming from urban centres. Also regional traditions within experience based activities such as tourism and arts & crafts form a tacit knowledge ‘blowing in the air’ that have been used by food producers as well as by regional policy actors in identification of relevant promotion initiatives. In general, policy and governance actors deviate from the

above picture of private sector actors and have been characterised by an analytical, knowledge generating approach to development of promotion frameworks. They often have organised their initiatives on the basis of specifically acquired analyses of private consultants and research institutions such as CRT.

Use of knowledge rather than generation of knowledge not only characterises development of Bornholm food but is a general characteristic of markets for premium-priced dedicated food products on which authenticity and tradition rather than novelty and change are branded product qualities. Usually, generation of knowledge is considered the pivotal driver of innovation but on the mentioned sort of markets, innovation and competition to a large extent is determined by the abilities to obtain, combine, and use existing knowledge in new ways. In this field, small firms often are more efficient and adaptive than large firms. Interestingly, the multinational meat processing company Danish Crown, studied in FKD3, contacted micro firms on Bornholm to learn and be inspired about development of specialised products as an element additional to their targeted R&D activities.

It should be stressed however, that a distinction between generation and use of knowledge does not fully capture the kind of knowledge and learning that characterises Bornholm food producers. To capture the essence of the observed knowledge and learning dynamics we need something in between generation and use such as adaptation and contextualisation. Although generation of fundamentally new knowledge is rare, very little knowledge is directly copied and used without adaptation to the specific regional and national context. A prime example of this is the creation of a Bornholm version of regional culinary heritage. Though inspired and influenced by food traditions abroad, the critical part of this creation is connected with the adaptation and contextualisation to the Bornholm setting - the Bornholm 'terroir'.

3.1.2. Proximity vs. distance knowledge interactions

The TKD is highly complex and diversified regarding territorial aspects. In fact, three of the four region types regarding proximity and distant interaction, hypothesized in Figure 3 of the EURODITE guidelines (EURODITE 2007), are applicable for different parts of the TKD.

In the field of synthetic product and technology knowledge, geographical distance seems not to constitute an inaccessible barrier for exchange and transfer of knowledge. Codified product and technology knowledge is without major problems provided via geographically wide-ranging professional sources and networks, for instance the internet, suppliers, industry organisations and competitors. After practical phases of learning-by-doing these networks of professional communities are also used for exchange of tacit knowledge. Thus, in terms of provision of product and technology knowledge, the TKD fits well into the EURODITE category of 'Networks of distant knowledge interactions'.

The picture is different when it comes to development and use of symbolic design, marketing, communication, and branding knowledge of crucial importance for creation of value-adding experience and storytelling dimensions of products. Here the TKD has characteristics of a 'Classic innovative milieu' in which diffusion and development of tacit knowledge elements depend on spatial proximity between actors in a localised

system, however, open for distant interaction and learning as well. This 'Bornholm innovative milieu' for symbolic knowledge is highly sector-crossing and involves not only food producers but also actors of related sectors such as tourism, restaurants, and arts & crafts who commonly market and brand their products with a 'regional identity'. Furthermore, the symbolic knowledge milieu encompasses a public knowledge institution in the form of the before mentioned Glass and Ceramics School on Bornholm for craftsman production and industrial design within glass and ceramics²¹ as well as two trade associations for the about 100 arts & crafts firms and a number of consultancy firms with expertise in graphical design, communication, experience economy businesses, etc.

Finally, the combination of rich intra-regional interaction and rich inter-regional interaction with production and marketing systems for culinary heritage in other rural regions of Europe, formalised under the umbrella of the association Regional Culinary Heritage, suggest a classification as 'Medium and long distance KDs between regional production systems'.

3.1.3. Mobility and anchoring

The TKD is an example of increasing flows of mobile knowledge and of the significance of regional anchoring of this knowledge in an increasingly global economy. The mobility of knowledge has two dimensions: a dimension of increased interaction and knowledge flows in geographical space, and a dimension of enhanced knowledge linkages between different sectors that were not before related to the same degree. The concept of experience economy seems to be relevant and illustrative for both dimensions.

Starting with the *sectoral* dimension of mobility, the relevance of the concept experience economy is not restricted to the classical experience based service sectors like tourism and entertainment but is applied in a variety of sectors including food. Regarding the *spatial* dimension of increased knowledge mobility, the TKD illustrates, among other things, the transfer and practical contextualisation of the abstract experience economy concept, invented and developed by social science researchers and international consultancy firms in metropolitan areas to describe new product and business forms profiting from growing consumer demands for experiences and products with a face and story. Through the intermediating roles of regional KIBSs and through regional interaction of related experience based sectors, an understanding of the concept of experience economy and its practical implications for diverse business functions has anchored among regional firms and governance actors. The cross-sector flows of symbolic knowledge among Bornholm actors concerning design, marketing, and experience based business models constitutes the main regional anchoring element of the TKD, giving the process of developing Bornholm food its distinct region-specific character and difficult to replicate by other regions.

A high degree of spatial mobility of knowledge also characterizes the fundamental initial inspiration of Bornholm food producers in culinary heritage traditions and food production, distribution and consumption cultures in other countries. Due to lack of authentic regional food traditions the development of Bornholm

²¹ The Glass and Ceramics School played a direct role for the knowledge dynamics in FKD2.

culinary heritage has eclectically tapped into international gastronomic traditions of Southern European countries as well as 'New Nordic Food', a gastronomic style or 'school' recently launched and promoted by the Nordic Council of Ministers, focusing on the naturalness and freshness of Nordic food raw materials (<http://www.norden.org/>).

So, contextualisation of mobile knowledge is a main characteristic of the TKD. In recent years other rural areas of Denmark as well as rural development actors at central government level have been highly interested in adopting the 'best-practices' from Bornholm of developing regional food. Accordingly, certain elements of reciprocal learning have started affecting the TKD. The interest of external actors might indicate that parts of the knowledge developed on Bornholm, primarily concerning establishment of policy and governance frameworks, have become mobile and transferable to other places. Still, the Bornholm experiences are difficult to bring out of its specific historical and regional context and other places will have to accomplish similar processes of contextualisation in order to truly exploit the lessons made.

3.2 Confrontation to existing theories

In paragraph 2.2 we confronted our findings with research and theories within rural sociology and economic geography regarding the question if and in which ways alternative food networks actually are alternative and not just complementary to conventional food networks. In this paragraph we only have one further comment.

As already described, the business model generally employed by Bornholm food producers, relies on premium-priced products dedicated to certain consumer segments and adding of value to the physical products through experience elements. In the terminology of Storper & Salais 1997, such firms belong to the World of Production for dedicated-specialized products characterized by trust-based interpersonal relations and dialogue between producers and customers to build mutual understandings and expectations.

The general picture from our interviews, though, is that most individual firms have a surprisingly little explicit knowledge about costumers and only few make attempts to investigate this issue in more targeted and systematic manners. The concept of gap-filling (Dahmen 1988; Shaw & Williams 1990), stemming from research on entrepreneurship in tourism, seems to be relevant for understanding a part of the knowledge dynamics behind development of experience elements of Bornholm foods. The concept gap-filling has a point of departure in a Schumpeterian understanding of the entrepreneur. Gap filling is related to the idea that economic development follows cycles, started by radical innovations which create structural demands for new products. These demands open for opportunities for entrepreneurial activities to fill the gaps in markets between the supply and demand sides. In our case the new structural demands concern food with a 'cultural meaning' - a regional identity, assured by certain qualities, i.e. the consumer knows where, how and by whom his/her food is produced. It is impossible to trace knowledge sources concerning the social and cultural identity processes in contemporary Western societies whereby consumers react to globalization processes by demanding knowledge about the who, what, where and how, of their food. But Bornholm has a definite territorial edge in this discourse because it is the most distinct region in Denmark. This dis-

inction, although fostered by geography, has been utilized explicitly by producers and regional marketing KIBSs. Thus, a natural asset has been exploited for commercial purposes by 'instinctive feeling' - as opposed to formal research - about structural market gaps.

3.3 Specific conclusions for the region

Please see section 2.4.

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Andersen, Stig: Consultant, Bornholm's Agricultural Advisory Services. Bornholm: 28.08.08.

Arnt, Lars: Purchaser in the leading wholesales company, Inco in Copenhagen. Interviewed 19.08.08.

Boisen, Thorkild: Owner of Boisen is (ice cream), Chairman of the board Regional Culinary Heritage. Bornholm: 15.03.2006 and 06.02.2009

Eriksen, Frank: former partner in Konnect Kommunikation Aps, a communication consultancy firm. Bornholm: 20.08.08.

Hammer, Jørgen: Chairman of the board of the Local Action group on Bornholm and Chairman for the Association of Village Citizens' Society on Bornholm ("Sammenslutningen af Borgerforeninger på Bornholm"). Bornholm: 24.03.09.

Hansen, Hans: owner: Lehnsgaard Rape Seed Oil. Bornholm: 09.05.06, 17.06.08, 12.03.09, 01.05.09

Hansson, Jan: European coordinator, Regional Culinary Heritage. Interviewed 15.03.2008.

Henriksen, Poul, Production Manager, Danish Crown Slaughterhouse, Rønne. Bornholm: 30.01.09

Holmstrand, H.C: owner: Holmstrand Consulting, Bornholm: 29.08.08.

Ingen Bro, Bolette van: Director, Food Development Information Centre, Holstebro, Denmark: 21.08.08.

Jensen, Hans Jørgen: Coordinator, Local Action Group Bornholm; secretary for Regional Culinary Heritage network. Bornholm: 21.02.08.

Jensen, Mikkel: Development Manager of Destination Bornholm, Bornholm: 11.09.08.

Julin, Georg: Food Ambassador on Bornholm 2004-2005, 04.03.08.

Larsson, Paul E.: owner of consultancy firm Danish Food Guide, Bornholm. 13.08.08

Madvig; Eva: Tour manager, Team Bornholm. Bornholm: 24.02.09

Molin, Anne-Lise: Politician. Member of Regional Municipal Council; member of the board of Local Action Group Bornholm, former mayor of Nexoe Municipality. Bornholm, 24.03.2009

Munk, Rita: Project Manager, Danish Danish Food Industry Agency/Ministry of Food, Agriculture and Fisheries: Copenhagen: 29.08.08

Paulsen, Jesper: owner of Lille Gadegaard Vineyard. Bornholm: 15.03.06., 18.06.08, 24.02.09, 26.02.09.

Pedersen, Torben: Head of Sales in the pork division. Danish Crown, Randers. Copenhagen: 16.06.08.
Bornholm: 25.08.08

Seest Dams, Claus: chef of Restaurant "Di 5 Ståuerna" (The Five Lounges), Hotel Fredensborg, Bornholm: 08.04.09

Skovgård, Anne: freelance food journalist, Copenhagen: 01.09.08

Stender, Tim: Owner of Svaneke Øl (brewery) in Svaneke, Bornholm: 28.08.08.

Sørensen, Hilmer: researcher, Faculty of Life Sciences/Copenhagen University, Copenhagen. 03.09.08

Thinggård, Jens Ole: Bornholm pork producer. Bornholm: 25.08.08

Westermann, Stig: owner of the company Bornappetit, former chairman of the board of Bornholm Regional Culinary Heritage, Bornholm: 20.08.08.