

Local Agri-food Systems in a Global World

Local Agri-food Systems in a Global World: Market, Social and Environmental Challenges

Edited by

Filippo Arfini, Maria Cecilia Mancini
and Michele Donati

**CAMBRIDGE
SCHOLARS**

P U B L I S H I N G

Local Agri-food Systems in a Global World:
Market, Social and Environmental Challenges,
Edited by Filippo Arfini, Maria Cecilia Mancini and Michele Donati

This book first published 2012

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Copyright © 2012 by Filippo Arfini, Maria Cecilia Mancini and Michele Donati and contributors

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-4438-3664-8, ISBN (13): 978-1-4438-3664-7

CONTENTS

CONTRIBUTORS	vii
EDITORIAL ADVISORY BOARD	xi
PREFACE.....	xiii
INTRODUCTION.....	1
Local Agri-Food Systems in a Global World: Market, Social and Environmental Challenges <i>Filippo Arfini, Maria Cecilia Mancini and Michele Donati</i>	
PART I	
CHAPTER ONE.....	9
A Reinterpretation of the Agri-Food System and its Spatial Dynamics through the Industrial District <i>Fabio Sforzi and Maria Cecilia Mancini</i>	
CHAPTER TWO	29
Sustainable Inter-organizational Relationships in Regional and Non-regional Agri-food Supply Chains <i>Christian Fischer</i>	
CHAPTER THREE	49
Rural Development and Local Agri-food Systems: A New Paradigm <i>Evy Mettepenningen, Valerie Vandermeulen and Guido Van Huylenbroeck</i>	
CHAPTER FOUR.....	71
Local Food Quality and Local Resources <i>Giovanni Belletti, François Casabianca and Andrea Marescotti</i>	
CHAPTER FIVE.....	97
Globalization/Fragmentation Process: Governance and Public Policies for Localized Agri-food Systems <i>Gerardo Torres Salcido and José Muchnik</i>	

CHAPTER SIX	117
Determinants of Inter-organizational Network Performance— A Literature Review	
<i>Virginie M. Lefebvre, Adrienn Molnár and Xavier Gellynck</i>	

PART II

CHAPTER ONE	153
The Las Approach: A Scheme for a Sustainable Local Development of Latin American Rural Areas?	
<i>Denis Requier-Desjardins</i>	

CHAPTER TWO	173
Environmental and Territorial Problems of the Spanish Olive Oil Sector and Priorities for Research and Innovation: A Delphi Analysis	
<i>Javier Sanz-Cañada, Daniel Coq-Huelva, Florencio Sánchez-Escobar and Isabel Hervás-Fernández</i>	

CHAPTER THREE	195
Value Chains and Chains of Values: Tracing Tanzanian Tea	
<i>Allison Loconto</i>	

CHAPTER FOUR	215
A Constructivist View on the Quality of Food: Argentinean Experiences	
<i>Marcelo Champredonde and José Muchnik</i>	

CHAPTER FIVE.....	243
Is the Protected Designation of Origin (PDO) Policy Successful in Sustaining Rural Employment?	
<i>Zora Bouamra-Mechemache, Jad Chaaban</i>	

CHAPTER SIX.....	259
The Craft Villages of the Red River Delta (Vietnam): Periodization, Specialization, Specializations	
<i>Sylvie Fanchette</i>	

CONTRIBUTORS

<i>Giovanni Belletti</i>	Department of Economic Sciences, University of Firenze, Italy
<i>Zora Bouamra-Mechemache</i>	School of Economics, Toulouse, France
<i>Jad Chaaban</i>	Department of Agricultural Sciences, American University of Beirut, Lebanon
<i>François Casabianca</i>	Institut National de Recherche Agronomique, Corte, France
<i>Marcelo Champredonde</i>	Instituto Nacional de Tecnología Agropecuaria (INTA)/EEA Bordenave, Pigüé, Provincia de Buenos Aires, Argentina
<i>Daniel Coq-Huelva</i>	Department of Applied Economics II, Sevilla University, Spain
<i>Sylvie Fanchette</i>	IRD/CEPED, Paris, France
<i>Christian Fischer</i>	Faculty of Science and Technology, Free University of Bolzano, Italy
<i>Xavier Gellynck</i>	Department of Agricultural Economics, Ghent University, Belgium
<i>Isabel Hervás-Fernández</i>	Spanish National Research Council/Centre of Human and Social Sciences, Madrid, Spain
<i>Virginie M. Lefebvre</i>	Department of Agricultural Economics, Ghent University, Belgium

<i>Allison Loconto</i>	Institut National de la Recherche Agronomique, Science et Société – Institut Francilien Recherche Innovation et Société (IFRIS) – Université Paris-Est Marne La Vallée – Champs sur Marne France
<i>Maria Cecilia Mancini</i>	Department of Economics, University of Parma, Italy
<i>Andrea Marescotti</i>	Department of Economic Sciences, University of Firenze, Italy
<i>Evy Mettepenningen</i>	Department of Agricultural Economics, Ghent University, Belgium
<i>Adrienn Molnár</i>	Department of Agricultural Economics, Ghent University, Belgium
<i>José Muchnik</i>	Institut National de Recherche Agronomique-Syal ERG Innovation, Montpellier, France
<i>Denis Requier-Desjardins</i>	Institut d'Etudes Politiques de Toulouse – LEREPS, Université de Toulouse, France
<i>Florencio Sánchez-Escobar</i>	Regional Development Institute, Sevilla University, Spain
<i>Javier Sanz-Cañada</i>	Spanish National Research Council/Centre of Human and Social Sciences, Madrid, Spain
<i>Fabio Sforzi</i>	Department of Economics, University of Parma, Italy
<i>Gerardo Torres Salcido</i>	Center for Interdisciplinary Research in Science and Humanities, Mexico City, Mexico

Valerie Vandermeulen

Department of Agricultural Economics,
Ghent University, Belgium

Guido Van Huylenbroeck

Department of Agricultural Economics,
Ghent University, Belgium

EDITORIAL ADVISORY BOARD

<i>Gilles Allaire</i>	Institut National de la Recherche Agronomique, Département Economie et Sociologie Rurales (Unité de Toulouse), France
<i>Corrado Giacomini</i>	Department of Economics, University of Parma, Italy
<i>José Muchnik</i>	Institut National de Recherche Agronomique- Syal ERG Innovation, Montpellier, France
<i>Javier Sanz-Cañada</i>	Spanish National Research Council/Centre of Human and Social Sciences, Madrid, Spain

PREFACE

The idea for this volume was conceived after the International EAAE-SYAL Seminar “Spatial dynamics in agro-food systems: implications for sustainability and consumer welfare” held in Parma, Italy, in October 2010. The Seminar was the result of the joint efforts of two scientific communities: SYAL—ERG (Systèmes Agro-alimentaires Localisés—European Research Group) and the European Association of Agricultural Economists (EAAE), closely involved in the debate on the dynamics of local production systems under the pressures of globalized food-chains with respect to environmental preservation, cultural identity, market equilibrium and in general socio-economic welfare.

The awareness that an effective analysis on the spatial dynamics within the agri-food systems requires an interdisciplinary approach led to the involvement of scientists from the fields of economics, geography, sociology, demographics and agronomy. These fields can all provide useful theoretical tools and innovative analytical outcomes.

We would like to express our gratitude to the International Scientific Committee of the EAAE-SYAL Seminar, in particular to José Muchnik, Javier Sanz Cañada, Corrado Giacomini and Gilles Allaire, who helped to make it possible to explore the complexity of the local agri-food systems in the present era.

Although there is a great deal of literature on local agri-food systems, the links between local and global strategies of food production and processing are in rapid evolution and we felt an urgent need to update the underlying theoretical debate. We therefore gathered together contributions covering the following areas: the current state of spatial dynamics in agri-food systems; the socio-environmental impact of agri-food systems on rural development; the role of local resources in agri-food systems; the governance and public policies of local agri-food systems; and, last but not least, the progress in methodological approaches for analyzing spatial dynamics of agri-food systems.

The aim of this volume is to further interdisciplinary discussion, and it is hoped, to propose new pathways for the development of sustainable local agri-food systems in today’s globalized world.

—*Filippo Arfini, Maria Cecilia Mancini and Michele Donati*

INTRODUCTION

LOCAL AGRI-FOOD SYSTEMS IN A GLOBAL WORLD: MARKET, SOCIAL AND ENVIRONMENTAL CHALLENGES

FILIPPO ARFINI, MARIA CECILIA MANCINI
AND MICHELE DONATI

The purpose of this volume is to present a broad-based critical analysis of the relationship between the agri-food sector and the socio-economic environment when local agri-food production systems are connected with global markets. The key role of this topic was confirmed by a great deal of literature and it has been widely discussed as part of the complexity of agri-food systems, involving close connections between different dimensions, institutions and frameworks.

It is a fact nowadays that food production, food processing and food consumption are economic activities in which local and global strategies are interconnected (Goodman 2004; Bowen 2011) and they are combined in complicated ways (Murdoch et al. 2000; Sonnino 2007). Decisions on where and how to produce, associated with what to consume, are made on a global scale. They are driven by the cost differentials of factors such as labour and transportation, but also by target market characteristics including quality needs, beliefs and cultural heritage.

In agri-food as in other systems, many companies have organized production in developing countries in order to be more competitive on the global market. This process generates positive and negative externalities which can affect the welfare of the local population and, more generally, the sustainability of local production systems.

On the other hand, local production systems are competing on the global market by producing specific quality goods, where innovation,

services, culture and local heritage are part of the concept of quality. They also affect the welfare of consumers and citizens; if products fail on the market, perhaps because of exogenous conditions, feed-back mechanisms will affect local production systems.

In a globalized word, it is possible to locate production activities in a limited geographical area and reach markets that are global (Murdoch and Miele 1999). These may be commodity markets, but in other cases they are niche and spatially concentrated markets. As a result, there is a wide range of agri-food systems showing a striking coexistence of diverse organizational patterns, ranging from simple food chains to more complex food networks. Agri-food systems always however develop according to the cultural and productive characteristics of local production systems as well as the availability of resources like land and water, production costs and the localization of target markets.

The implications of the relationships of different agri-food systems on local production systems are wide and varying. They fall into different areas: geography, economics, demography, sociology and agronomy which are all fields useful in assessing the impact of different behaviors and strategies on the socio-economic evolution of local production systems.

In this book, the local dimension of agri-food systems is considered assuming that all the variables related to agri-food production are closely connected and dependent on local production systems. In this perspective, Local Agri-Food Systems (LAFS) also become the focus of the analysis in order to evaluate the level of sustainability and policy requirements. Whether LAFS produce, transform or simply consume food, there are big implications for the socio-economic environment and socio-economic sustainability.

Although there is a great deal of literature on LAFS, there are still unresolved issues concerning the factors influencing their dynamics and effects, at both local and global level. The precise questions asked reflect different research objectives and policy goals, but the key issues are the following:

- what are the dynamics of LAFS under the pressures of globalized food-chains with respect to environmental preservation, cultural identity, market equilibrium, firm competition and, in general, socio-economic welfare?
- are LAFS a new paradigm for rural development?
- what is the role of local resources in local agri-food systems?

- what is the role of institutions and public policies in supporting LAFS?

The main issue for researchers however remains the definition of the theoretical framework able to catch most of the existing relationships between local and global, and provide answers on the above socio-economic phenomena.

The volume examines the interrelation between LAFS and agri-socio-economic aspects from two main points of view. It therefore consists of two parts: theoretical analysis of the different models at the basis of LAFS and empirical evidence of the role played by LAFS on local and global markets.

The theoretical debate on local approaches in the globalisation era

The theoretical debate in this book underpins many of the different types of analysis on the relationships between local and global. Mardsen and Murdoch (2006) pointed out the complexity of interaction and the presence of heated debate between the actor-network approach and another approach closer to political economics. The debate is in fact still polarized around these two approaches, and this is reflected in the different theoretical frameworks used by our contributors.

Sforzi and Mancini examine industrial district theory. This theory is well known, and is used to interpret industrial organization models developed at a local level. But industrial theory concepts are not widely applied to analyzing local food production systems. Sforzi and Mancini consider the theory as a possible framework for LAFS analysis. The focus of the analysis is the local community, but the key role is played by human agents of production and their knowledge. The agri-food system can be seen as “a global network of places”, where each place is specialized in a different component of the system and where policy action meets the needs of local population in regard to global pressure.

Fisher on the other hand focuses on global value chains and the organizational relationships that effect sustainability at local level. It is a fact that the global value chain is the strategy developed by food chain managers in order to consider demand and supply equally with the objective of maximizing consumer company utility. In this respect, local producers of non-regional foods might suffer. On the other hand, effective food chains can also guarantee the transmission of information along the chain. The effectiveness of global value chains as a tool able to guarantee

fair conditions to producers is based on the ability of food managers to develop an effective communication strategy involving local producers and other organizations. If they are able to do this, all members of the food chain raise profits and sustainability becomes a realizable goal.

Mettepenningen, Vandermeulen and Huylenbroeck analyse the theme of rural economics and rural development showing positive and negative externalities in today's globalized context. They consider regional identity and local food systems as able to boost rural development. The connections between these two relatively new elements are regional specificities, including the skills to provide an identity to local food, and the improvement of environmental quality. Here too there is the need to satisfy the expectations of consumers and citizens. This approach is somewhat similar to industrial district theory as the condition for this type of development process in rural areas involves the different stakeholders and policy support, the decentralisation of governance structure and a big investment in human resources at local level. The main question is who is responsible for institutional mechanisms able to influence the supply of private and public goods and avoid market failure.

Belletti, Casabianca and Marescotti indirectly support the approach of Mettepenningen, Vandermeulen and Huylenbroeck, as they consider the role of local food quality and local resources the key element in a sustainable approach for LAFS aiming to meet societal requirements for positive environmental externalities in production.

Torres-Salcido and Muchnik highlight the presence of paradoxes in the very complex behavior and strategies adopted by both consumers and private/public stakeholders that affect LAFS in a globalized framework. From the consumer point of view, the paradox is the fragmentation of consumption, where consumers are increasingly attracted by products with specific characteristics associated with a territory and their intrinsic value. From the stakeholder point of view, the paradox is the combination of collective action and social exclusion. The combination is leading to new inequalities and asymmetries in the organization and collective action inside and outside local communities, and leading to economic and social fragmentation. This criticism is closely related to the comments of the previous contributors and underlines the need for public policy to prevent failure on global markets and at the same time prevent social exclusion at the local level.

Lefebvre, Molnár and Gellynck conclude the first part of the book with a review of the literature on network performance and the factors influencing it. They show that inter-organizational networks are generally investigated for their impact on the performance of the firms participating

in the networks. They also find that where goals are considered, these generally refer to the goals of the firms participating in the network and not to the goals of the network itself. They ask whether inter-organizational goals really exist.

There is a clear link between different approaches and the need to create value for companies, consumers, society and the local community and, at the same time, there is a need to create and to manage a sustainable agri-food food system where development is not only based on economic values, but also on human and environmental value. The complexity and the problems of LAFS in a globalized framework are all up for discussion. The breadth and scope of the contributions to Part I show that there is no single framework able to embed all the factors affecting LAFS sustainability and responding at the same time to the needs of the global market.

Evidence of local complexities and new-socio economic patterns

Part II contains six chapters placing the issues theorized in the Part I into a global context. Each chapter presents a case or experience exemplifying the complexity and links between different factors influencing LAFS sustainability and their evolution over the time.

Some contributions show how LAFS take different forms and follow different dynamics in relation to local resources, market characteristics and policy strategies. The cases are from far-flung areas of the globe - Latin America (Desjardins), Spain (Sanz Cañada, Sánchez Escobar, Hervás Fernández and Coq Huelva), Tanzania (Loconto), Argentina (Champredonde and Muchnik), France (Mechemache) and Vietnam (Fanchette) and it is clear how, in a globalized context, geographical position affect LAFS characteristics, but it is also clear that local resources, market strategies and policy instruments used by different types of stakeholders are even more relevant. The cases demonstrate how socio-economic sustainability and environmental sustainability are closely linked. They are the result of how the different dimensions of the LASF combine with regard to objectives of local stakeholders.

The six cases illustrate different aspects of the behavior of LAFS and their level of sustainability:

- the adoption of a new paradigms of rural development (Desjardins);
- the adoption of R&D strategies to enhance environmental quality Sanz Cañada, Sánchez Escobar, Hervás Fernández and Coq Huelva);

- the impact of certification schemes on the governance of global value chains (Loconto);
- the dimension of quality for regional food products (Champredonde and Muchnik);
- the relationships between agri-food intervention mechanism, such as quality labels, and rural development (Mechemache);
- the adoption of innovation pattern and local policy strategies for global scale competition (Fanchette).

The contributions show that no matter where the LAFS is located, globalization brings with it common problems. In this there is little difference between the north and south of the world or between industrialized and under-developed countries. LAFS all over the globe present problems in common, which by implication may have common solutions too. The differences are due to the socioeconomic context, environmental factors, local heritage and the culture of the population, the skill of the entrepreneurs and the role and the power of public and private stakeholders.

This volume discusses the possibility that all over the world LAFS could be set on a common course towards development and sustainability.

References

- Bowen, S. (2011). The Importance of Place: Re-territorialising Embeddedness. *Sociologia Ruralis* 51 (4): 325-348.
- Goodman, D. (2004). Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change. *Sociologia Ruralis* 44: 3-16.
- Marsden, T. and Murdoch, J. (2006). *Between the local and the global. Confronting complexity in the contemporary agri-food sector*. Vol. 12. Elsevier: Amsterdam.
- Murdoch, J., Marsden, T. and Banks, J. (2000). Quality, nature, and embeddedness: some theoretical considerations in the context of the food sector. *Economic Geography* 76 (2): 107-125.
- Murdoch, J. and Miele, M. (1999). "Back to nature": changing "worlds of production" in the food sector. *Sociologia ruralis* 39(4): 465-484.
- Sonnino, R. (2007). Embeddedness in action: saffron and the making of the local in southern Tuscany. *Agriculture and Human Values* 24 (1): 61-74.

PART I

CHAPTER ONE

A REINTERPRETATION OF THE AGRI-FOOD SYSTEM AND ITS SPATIAL DYNAMICS THROUGH THE INDUSTRIAL DISTRICT

FABIO SFORZI AND MARIA CECILIA MANCINI

Abstract

Industrial district theory has brought to development economics the opportunity to interpret economic change through places where it actually takes place, as a result of joint action of local and extra-local social, economic and institutional forces. This chapter sets out to discuss the contribution that industrial district theory can make to the debate on spatial dynamics of agri-food systems in the age of globalisation. The first part analyses the contribution of the industrial district approach in the relationship between industry and territory; the second part studies the evolution of the concept of agri-food system and the main determinants of the spatial dynamics in modern agri-food systems. The authors agree that the industrial district theory can shed new light on the spatial dynamics of agri-food systems, and can offer an alternative to the mainstream approach. In using the local community as a unit of analysis, industrial district theory gives a key role to human agents of production and their knowledge and the agri-food system can be seen as “a global network of places”, each place being specialized in a different component of the system.

1. Introduction: the industrial district and its various meanings

The industrial district (ID) is widely recognized as a *model of production* by the international academic community in that it reveals the capacity of small and medium enterprises (SMEs) to attain the same level of competitiveness as large firms. It represents a model of economic growth and social development.

Since the 1990s, regional authorities have used IDs as an *instrument of industrial policy* on the initiative of central government, which has promoted their legal recognition. In the first decade of this century, the ID was adopted as a theoretical background for the policy of *agrupaciones de empresas innovadoras* (Innovative Business Groupings) in Spain (MITYC 2006). In developing countries, the Italian experience of IDs has been used as a reference model by UNIDO (2001) for policies encouraging cooperation among artisan firms. Currently ID is the object of study and monitoring in many regions of Italy by academics and professionals working for public and private institutions.

The ID concept has also informed similar concepts such as the *systèmes productifs localisés* (localised production systems) (Courlet 2008), and to some extent introduced a “territorial dimension” into concepts such as the *cluster* (Porter 1990; Porter and Ketels 2009). The intellectual debt of these concepts to ID is widely recognized in the literature.

ID theory has also breathed new life into industrial and regional economics. Most recently it has brought to development economics the opportunity to interpret economic change through places where it actually takes place, as a result of combined action by local and extra-local social, economic and institutional forces.

Because of these multiple meanings—as the French economist Claude Courlet (2006, 20) noted—the original ID concept has “lost scientific rigor” or has been misinterpreted.

As a matter of fact, defining an ID as a geographical concentration of industry is equivalent to defining it through the theoretical framework of the location of industries. But that is precisely the theoretical framework called into question by ID theory; an ID comprises a local community specialized in an industry instead of an industry concentrated in a place.

Here is an example to clarify this point. Langhirano is a place well known to gourmets because it produces “Parma Ham”. Langhirano can be seen either as one of the places where the food industry is localised, or as a mountain community near Parma which procures what it cannot produce itself by specializing in what it makes best. In the first view, the unit of analysis is the food industry, and a study of its spatial distribution reveals Langhirano. In the second view, the unit of analysis is the community of Langhirano, and research on the production structure of the place brings into focus the food industry. In the first view, the socio-economic reality is seen as “an array of interrelated industries” and in the second view it is “a system of places”.

International historiography (e.g., Daumas 2007) is unanimous in recognizing that the ID concept began to spread among the scientific community thanks to the 1979 article by Giacomo Becattini, the Florentine economist founder of the Italian neo-Marshallian school.

Becattini's 1979 article was entitled "From industrial 'sector' to industrial 'district'. Some remarks on the unit of analysis of industrial economics" (now reprinted in Becattini 2004) are of interest. The title leaves no room for doubt; Becattini proposes the *district* in the place of the *sector* as a unit of analysis.

It is true that the article discusses economies of production and how

the advantages of production on a large scale can in general be as well attained by the aggregation of a large number of small masters into one district as by the erection of a few large works (Marshall, cit. in Becattini 1979).

This clearly paves the way for the ID to be conceptualized as a model of production. But the central nucleus of ID theory remains that the ID is the unit of analysis of industrial phenomenology.

This chapter sets out to discuss the contribution that industrial district theory can make to the debate on spatial dynamics of agri-food systems in the age of globalisation.

Section 2 explains the theoretical foundations for this work. It examines the contribution of the ID approach in the relationship between industry and territory. It investigates the increasing importance given to territory in the analysis of the agri-food systems, highlighted by the growing number of theoretical approaches that use the territory as the explanatory variable of the socio-economic dynamics in modern agri-food systems, such as the *systèmes agro-alimentaires localisés* (hereafter: SYAL). Section 3 tackles the issue of spatial dynamics in agri-food systems and their determinants. Section 4 discusses a reinterpretation of the agri-food system and its spatial dynamics through ID theory and Section 5 proposes some final remarks.

2. A theoretical approach to the relationship between industry and territory

2.1 The ID as theoretical framework

We first need to consider the theoretical importance of taking the ID as a unit of analysis. ID theory breaks with mainstream economics, which sees the relationship between industry and territory as the result of

industrial location. ID theory introduces territory into economic analysis, and overturns this perspective.

In contrast with studying the distribution of industries over a territory, searching for the presence of manufacturing agglomerations and related locational factors, ID theory takes as starting point the place where the economic agents (both entrepreneurs and workers) are embedded.

The approach is justified by the way in which industry is conceptualized. Instead of defining industry according to the traditional technological criterion, that is as “the set of firms which produce a given class of goods sharing the same technical characteristic or material of the manufacturing process”, we conceptualize industry as “the awareness that economic agents have of belonging to an industry”, through a criterion of identity.

Giacomo Becattini, in his 1962 book on the concept of industry, writes:

As well as a set of manufacturing processes, industry may be seen as a set of sacrifices of work, expectations and organisation (Becattini 1962, 23).

In this view, the place of the industry is not a *production system*, that is a territorial partition circumscribing a group of firms in the same or related industry, but has the nature of a *place of living*, that is a bounded territory where a group of people live and earn their living in economic activities located in it. Most daily social relationships occur, and the need for social integration is met, within this same place.

The economic agents’ awareness of belonging to an industry is formed inside the place (or local community) through the way in which the networks of local relationships (internal markets) intermingle with the networks of connections established with their customers and suppliers which may be national or even global (external markets). This system of internal/external networks between economic agents is also influenced by relationships with family and institutions, and their links with social and institutional contexts. All these aspects lead to the sharing of representations, norms, values and sanctions which provide a framework and background for the social and economic life of the local community.

It is this local community, relatively self-contained economically, socially and institutionally, which is the unit of analysis and which we label “industrial district”.

2.2 The role of “territory” in the agri-food system

The relationship between agri-food system and territory has been gradually defined over time. Initially, the agri-food system was interpreted

through the notion of *agribusiness* in order to bring out the role of farming and its upstream and downstream activities in the industrial processing of food products. Davis and Goldberg (1957) for example examined only aspects of production and in this way gave farming a key role in advanced capitalist economies. At the beginning of the 1970s, the French school studied the industrialization of farming and focused on its role in fulfilling the requirement for food (Malassis and Bourdon 1970). It was found that the consumer drove the engine of the agri-food business, and the attention of agrarian economists shifted from supply to demand.

In Italy the work of the French school was further developed by Galizzi (1975), who defined the field of agri-food study as “the set of functions which jointly satisfy a new requirement for food”. Galizzi correctly predicted that supermarkets would gain precedence in the relationship with the consumer and dominance over the other components of the agri-food system.

Many subsequent researchers were to agree that the primary function of the sector is “feeding”. Ghersi and Bencharif (1995) for example write:

The agri-food system is made up of a set of agents in dynamic interaction who act on the production and transfer of food products in order to ensure food supply.

Ghersi and Bencharif thus recognise the complexity of the relationships between different, evolving, components of the agri-food system: farming, processing firms, suppliers of goods and services, food distribution, catering, consumers and institutions governing the agri-food system.

Again thanks to the contributions of the French school, territory was recognized in the 1990s as playing a key role in the agri-food system. As a consequence of this realization, the natural environment (i.e., the use and preservation of natural resources) and the socio-cultural environment (i.e., local history and manufacturing traditions), were also given new consideration. Both types of environment affect the production system and the tangible and intangible quality of a product. Food production was now interpreted as the result of a production model where economic agents are linked through the characteristics of a specific territory. Cultural and social aspects, and the collective dimension of production know-how of foods gave rise to a very rich field of study (Sylvander and Lassaut 1994; Berard and Marchenay 1995; Letablier and Delfosse 1995; Sylvander 1996; Casabianca and Valceschini 1996; De Sainte Maire 1996; Berard and Marchenay 1997).

The influence of the territory becomes particularly relevant in specialty foods. There are three types of factors involved: the specifically local

nature of resources, the history and traditions, and the collective dimension of knowledge shared locally (De Sainte Maire et al. 1995; Sylvander 1995; Bérard and Merchenay 1995; Barjolle et al. 1998; Casabianca et al. 2005).

The relationship between agri-food system and territory allows us to separate the agri-food system into constituent subsystems; product, consumption, institutions and territory (Bertazzoli et al. 2006). For each subsystem the characteristics need to be specified. These include the type of firm, characteristics of products, variety of services, type of institutions etc. It is also necessary to specify the function (productive, cultural, social, political, landscape) as well as the relationship between these aspects. The consequence is that there is not just one single agri-food system. There are many different systems, and each one is defined and reproduced according to characteristics and links among the subsystems.

2.3 From the agri-food system to localised agri-food systems

The use of the variable “territory” for the study of local production initiatives led to the proliferation of classifications.¹

A relevant approach to interpreting the relationship between the agri-food system and the territory is the French *systèmes agro-alimentaires localisés* (SYAL). This definition incorporates the territorial dimension of the system and, like previous definitions, allows for a plurality of situations. The concept was first formulated in the mid-1990s by the CIRAD (1996) and since then has gradually been refined (Muchnik 2010). There is no space here to summarise the evolution of the concept, but it is important to note that the concept of SYAL is related to another concept formulated in France, the *système productif localisé* (SPL) by Courlet and Pecqueur (1992), and developed and consolidated by Courlet over the following decade (Courlet 2008). That there are certain similarities between SYAL and SPL is confirmed by a recent comparative analysis by Requier-Desjardins (2007). Requier-Desjardins shows, though, that SYAL and SPL involve a different definition of the relationship between economic activity and territory. For a SPL the industry has to be concentrated in a relatively small area, a single place, while for SYAL

the notion of geographical concentration given the dispersion typical of rural areas must be softened: spatial limits of SYAL may be quite wide, embracing sometimes an entire region, or a set of micro-basins in a region, a kind of archipelago (Requier-Desjardins 2007, 11).

Here are a couple of examples from the Parma area. The pig haunches to be turned into *Prosciutto di Parma* come to Langhirano from pig farms

located in various regions of Italy, so the SYAL is a very wide area. But for producing *Parmigiano-Reggiano*, the milk has to come from the same area that the cheese-making, ripening and sale take place, so the SYAL is geographically much smaller.

An industrial economist could make a similar point about Biella wool. Biella is a local community located in North-east Italy, but the raw material does not actually come from the Biella area; it comes from sheep farmed in Australia. Biella is still however a local system specialized in woollen textiles even if some of its production stages are located outside the local system. This is because an industrial economist makes a distinction between the *industrial district* of Biella and the *economic space* of the industrial district of Biella, which is defined by the networks of trade with suppliers and even with final consumers located outside the district.

So the agri-food system is not unusual; its features are shared by production systems of other manufacturing sectors. In this view, a *localised agri-food system* coincides with its *economic space*, so its components (producers, manufacturers, retailers, consumers) may belong to any territory. The SYAL has a multi-localised nature with regard to territory, which is typical of a sectorial approach. But the territory does not define the production system, it only describes it.

3. Determinants of spatial dynamics in agri-food systems

The spatial dynamics characterizing modern agri-food systems are mainly the result of social, economic, cultural, technological, and institutional change. The way in which agri-food systems reorganise to manage change underlies their spatial dynamics, and is a cause rather than an effect of the current globalisation.

Hirst and Thompson (2003, 17) write:

Globalisation has a history. The 50 years between 1950-2000 are not remarkable when compared with the period 1850-1914. In that period flows of merchandise trade, capital investment and labour migration were all comparable to or greater than those of today.

But it is undeniable that one of the main features of contemporary globalisation is the ease with which production processes can be divided into stages, locating each stage in places throughout the world according to cost advantage, and implementing remote monitoring of production through wireless technology.

The main changes in agri-food systems are occurring in four areas:

- new models of consumption;
- modern retail;
- technical progress and information;
- international regulations.

3.1 New models of consumption

Changes in the economy, society and demographics have led to the requirement for food products with high service content.

The increasing participation of women on the labour market, and the fact that women are now not entirely responsible for producing meals in the home means that there is today increased demand for time-saving products. At the same time, changes in labour organisation such as greater distances travelled between home and work and the decline of longer lunch breaks are making meals less important and increasing demand for snack products. Increased consumption of food outside the home and the growth of catering chains, immigration, population ageing and an increase in the number of single person households and single parent families are all factors which have led to a wider range of agri-food products being offered and stimulated the development of new sales formats and packaging.

A second type of variables affecting consumers is cultural. Food consumption today is no longer simply a question of nutrition; it is also an expression of lifestyle and personal values. The desire for physical well-being has led to increased demand for “light” products, fresh rather than processed, fruit and vegetable rather than meat-based, GM-free, organic foods and “novel foods” enriched with nutrients. New awareness of the environment is encouraging the consumer to choose low environmental impact products, organically and sustainably grown foods, and to save food miles by using local distribution channels and the short supply chain. Ethical considerations are making fair trade models more widespread in trade with poorer countries.

Consumer choice is thus influenced by a range of socio-economic demographic and cultural variables acting jointly on decision-making processes. Demand for local speciality products, for example, is the result of consumer sensitivity to the advantages of buying from local producers as well as appreciation of chemical-physical and taste-smell characteristics of products. Another example of converging requirements is the spread of fast food and catering chains which satisfy the requirement to save time and at the same time the desire to imitate consumption styles imported from abroad. And naturally, the price variable remains a basic criterion for