

# Journal of Rural and Community Development

## Governance for Local and Regional Food Systems

**Author:** Harry Donkers

**Citation:**

Donkers, H. (2013). Governance for local and regional food systems.  
*Journal of Rural and Community Development*, 8(1), 178-208.

**Publisher:**

Rural Development Institute, Brandon University.



**BRANDON  
UNIVERSITY**  
Founded 1899

**Editor:**

Dr. Doug Ramsey



**Open Access Policy:**

This journal provides open access to all of its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. Such access is associated with increased readership and increased citation of an author's work.

# **Governance for Local and Regional Food Systems**

**Harry Donkers**

Independent researcher

Innonet

Irenestraat 3H

5141 GJ Waalwijk, The Netherlands

[hdonkers@ziggo.nl](mailto:hdonkers@ziggo.nl)

## **Abstract**

Local and regional food systems continue to emerge, despite daunting challenges. This article argues that such challenges can only be successfully confronted through the adoption of a more systematic approach and adequate governance. A new paradigm of “sustainable food security” is presented, alongside a classification scheme and clear definitions for the varieties of local and regional food systems. A discussion concerning the (multi) governance of local and regional food systems is supported through the presentation of examples from around the world.

Keywords: food systems, local, regional, classification, governance

---

## **1.0 Introduction**

Since World War II, mainstream development has involved the industrialization of agriculture and food systems in Western countries. Such systems were initiated to ensure Europeans would never again suffer from hunger, and were achieved through the support and subsidizing of agricultural policies; unfortunately, successful implementation was also achieved through the application of environmentally inadequate technologies (Ingemann, 2009). In a study of local food systems for the global future, Donkers (2012) characterized post-World War II programs of agriculture and food as systems of long, global, mono-functional food chains that were far removed from the everyday person through traditionally organized mega farms and firms. The author concluded that the systems appeared successful based on production output (volume) and profitability, but suffered with respect to social and ecological values (Transforum, 2011). As a result, these systems could not succeed in solving the world food problem; in fact, through such systems we lose any capacity of building an “authentic” life from meaningful perspectives.

To allow for a sustainable world agriculture and food system, physical and economic access to sufficient, safe, and nutritious food is required for all people. To address such a goal, Donkers (2012) introduced a new paradigm: “sustainable

food security”<sup>1</sup>. This paradigm combines Shiva’s (2011) three vital aspects of food security (ecological responsibility, food sovereignty, food safety) with Brundtland’s (1987) sustainability concept (people, planet, profit). “Food sovereignty” is the right of people and nations to determine their own system of agriculture and food, while “food safety” deals with the promotion and assurance of healthy plants and animals for consumption.

Food sovereignty is extremely important for countries, particularly developing nations, whose economic base is primarily agriculturally driven. These countries must be able to produce enough food for their own population, as well as generate revenues through the export of agricultural products. Food sovereignty prioritizes local and national economies and markets, and stimulates agriculture and food systems shaped by small farmers and family farms; artisanal fisheries; extensive animal husbandry; and sustainable food production, distribution, and consumption (Pimbert, 2008; Wittman et al., 2011). A precondition of food sovereignty is that regions or nations decide for themselves the nature and development of food production and consumption. This requires multi-scalar governance of food systems: worldwide, nationwide, regional, and local. In discussions that lead to international free trade, the adoption of multi-scalar considerations can produce legitimate policy objectives that maintain certain tariffs and quantitative restrictions. The sustainable food security paradigm urges the consideration of food sovereignty and food safety; a reconsideration of the social and ecological values of such systems; and the development of economic relationships that reward quality and fairness. Realizing such a paradigm requires a focus on small-scale, local, and regional resources. The food sovereignty issue is perhaps the most important reason for the regionalization of agriculture and food systems.

Recent literature ([www.davidsuzuki.org](http://www.davidsuzuki.org)) has demonstrated that small farms may produce higher output levels per unit area than do larger farms. Chappell and LaValle (2011) presented studies that demonstrated small farms, using alternative agricultural techniques, could produce enough food to sustain human populations without increasing their agricultural land base. Research has also clearly shown that small-scale farming, especially using ‘organic’ methods, has advantages in terms of environmental and biodiversity impact, and may be two to four times more energy efficient than large conventional farms (Hennig, 1996).

Over the last few decades, there has been a strong focus on local and regional food systems, which have received much attention from consumers, producers, government, researchers, and partners in the food supply chain. Local/regional food systems and their associated opportunities and challenges have been explored in a number of reports and articles (Cotler, 2009; Jensen, 2010; Clancy & Ruhf, 2010; Egmond, 2010; DeLind, 2011; *Klimaat en Voedselcrisis*, 2011). Local Food Systems (2011) is a site for networking, co-operation, and the building of local food networks. The Committee of the Regions of the EU, or CR (2011), has noted that local food systems are more sustainable than current systems, and Cornell

---

<sup>1</sup> The world community has acknowledged that the human right to food must be progressively realized, despite the enormous challenges and inequities that currently exist within food systems. The overarching goal has been defined by the UN Special Rapporteur: “The right to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensure a physical and mental, individual and collective, fulfilling and dignified life free of fear” (UN, 2010, p. 2).

University Library has presented a summary (index) of initiatives and sources related to local and regional food systems.

Donkers (2012) has characterized these new local and regional food systems as “multi-functional food networks” that are near to humans through meritocratically organized small farms and micro firms, producing safe, healthy, adequate, and affordable food for all. The challenges and opportunities of local and regional food systems are best addressed through a systematic approach; therefore, this paper emphasizes the classification and governance of such systems.

The aim of this article is to demonstrate how structured regional approaches can benefit sustainable food security. A classification scheme for local and regional food systems is proposed, based on geographic and social aspects discussed in Section 2.0. Governance is of key importance to the development of local and regional food systems that meet the requirements of sustainable food security. In Section 3.0, general information on governance structures is presented and an example of local spatial governance, along with local and regional food governance, is provided. In Section 4.0, the need for adaptation and strengthening of governmental regional food policies is illustrated, and a framework for multi-level governance systems at different regional levels is established. This is presented alongside a discussion regarding examples of empirical initiatives for the development of local and regional food systems. Section 5.0 concludes the study.

## **2.0 Classification of Local and Regional Food Systems**

Both “local” and “regional” are notions that refer to particular areas. In contrast with cities, municipalities, counties, provinces, etc., which have strong political or administrative boundaries, the boundaries of local and regional are more fluid. Local often refers to a radius or geographic distance between where food is produced and where it is consumed (approximately 50–100 miles). The definition adopted by the U.S. Congress in the 2008 Food, Conservation, and Energy Act (2008 Farm Bill), states that the total distance that a product can be transported and still be considered a “locally or regionally produced agricultural food product” is less than 400 miles from its point of origin, or within the state in which it is produced. This radius is used for certain federal rural development loan programs. For a small country like The Netherlands, this radius seems rather large, but it is not only the distance that matters. The term region refers to areas that are to be seen as entities from a historical, cultural, etc. perspective, with some type of political or administrative control, but less formal than appears in cities, municipalities, counties, provinces, etc.

### **2.1 Ontology**

Each local or regional food system is an individual whole, and at the same time is part of a larger whole. This is similar to the definition of “holons” by the American philosopher Wilber (1996). The characteristic feature of this concept is the notion that progress can only be made from a certain level when that level is completely understood from the perspective of individual-collective on the one hand, and inside-outside on the other (Table 1).

Table 1. *Ontological scheme of Wilber applied to local and regional food systems*

	<b>Inside</b>	<b>Outside</b>
<b>Individual</b>	I Intentional (Freud)	It Behaviour (Skinner)
<b>Collective</b>	We Cultural (Gadamer)	Its Social (Marx)

*Source.* Taken from Wilber (1996).

Both the right-upper (objective) and right-lower (inter-objective) quadrants contain observable, empirical, external aspects of holons. The left-upper (subjective) and the left-lower (inter-subjective) quadrants deal with internal interpretations.

The right-upper quadrant expresses external descriptions. What a holon experiences from inside is internal consciousness expressed in the left-upper quadrant. Cultural in the left-lower quadrant refers to internal meanings and values that are shared within the community. Social, in the right-lower quadrant, refers to the material basis and the external forms of the collectivity. According to Wilber, the fundamental cause of crises in our society today is that the notion of ‘modernity’ focuses too much on the right side of the scheme, while denying most of the left.

This approach is similar in many regards to Spiral Dynamics (Beck & Cowan, 1996), which also describes levels of increasing complexity. This approach suggests certain hierarchies in food systems. A regional food system includes multiple “locals” within a state, along with “locals” that cross state boundaries. Regional food systems operate in relation to other regions, as well as to the national and global food systems (Clancy & Ruhf, 2010). Smith and McDonald (1998) also adopt a hierarchical system of field, farm, agricultural landscape or watershed, regions, and countries with respect to their review of sustainability.

A local or regional food system deals with local food products, although there remains no broadly accepted definition for “local food”. The CR (2011) has defined local food products as those that distinguish themselves from other products by their authentic, traditional, original, sustainable, or seasonal character, or through other locally valued characteristics. By contrast, a regional food system has at least two dimensions that should be taken into account: geography (considering both local and regional meanings) and co-operation (the way people live and work together).




## **2.2 Geographic Aspects**

Agriculture and food depend on geographic conditions (e.g. land, soil) and available natural resources (water, regional climate conditions, etc.). The notion of regional, in a geographic sense, can include the countryside with a town or city. City and countryside are well known, clearly defined geographic areas; however, on their own they are not particularly valuable regions from an agricultural and food provisional standpoint. Since most producers live in the countryside and most consumers live in cities/towns, the territory of a city/town along with its environs, or a territory of particular countryside inclusive of the towns/cities toward which it is directed, must be addressed as a whole. Such a region contains both (part of) a

city as well as (part of) its countryside. It is an area with a certain character that covers both the producers and consumers of food. A unique definition that is applicable to all circumstances is therefore hard to present, and depends on the perspective from which one addresses a particular region. The regional character of an area finds its roots in associated activities, historic anchoring, or culture. Tourism/recreation, nature/landscape, and agricultural pursuits are mostly tied to a certain locality: the consequences of certain characteristics of the area, along with soil structure (*terroir*), providing specific tastes to the food products.

A region is therefore only addressed when an area contains both (part of) a city and (part of) the associated countryside. Through this definition, city and countryside are not defined as separate entities but rather as a conjunctive whole. In this manner, regional agriculture forms a ‘natural’ transition between city and nature. Tibaijuka (2009, p. 1) has stated that urban and rural areas are inseparable: “A big mistake that all of us have been guilty of in many parts of the developing world, and especially in Africa, has been to view cities and rural areas as separate entities. We need to stop thinking along the lines of urban and rural divides or biases, and begin to think of a production-consumption chain or continuum”. Regions form attractive and vital areas where people, both of the countryside and city and including young people, can experience many things (Table 2).

Table 2. *Rural-urban regions*

Rural-urban Region	Picture	Population density	
		High	Low
One central city and its surroundings		Metropolitan region	Cityside region
Two or more corridor-connected cities and their surroundings		Corridor region	Connected cities region
Three or more tied cities and their surroundings, enclosing a central rural area.		Conurbation region	Countryside region

Within rural-urban regions, a distinction is made between high populated and low populated areas, and by the number of towns/cities tied to one another. The number of inhabitants and the surface area of a region can heavily stipulate its character. Wishes, needs, and possibilities can also vary strongly between regions:

- One town and its environs we call a “metropolitan region” when it is densely populated (1 million inhabitants or more). Often, these areas intend to develop as an urban agglomeration (Stuurgroep Metropolitan Landschap, 2007). Examples include the New York Metropolitan Area; the Greater Tokyo Area; and the National Capital Region of India (Delhi and adjoining urban areas). We speak of a “cityside region” in cases with low population density.
- Two towns, like twin cities, or even more towns, often develop some kind of corridor-conjunction with one another. Together with their environs, we

speak of “corridor regions” when dealing with a high population density (more than 2 million people), and of “connected regions” when dealing with a low population density. Examples of corridor regions include the Taiheiyō Belt (a.k.a. Tokaido corridor) in Japan and the Twin Cities Minneapolis-Saint Paul in the USA. An example of connected cities is Hengelo-Enschede (Geertsen et al., 1999).

- Three or more tied towns, combined with their environs, form a rim-shaped area. The centre often consists of a green heart: where nature, agriculture, landscape, and recreation are at stake. With a high population density we speak of “conurbation regions”, and with a low population density we call this a “countryside region”.

### ***2.3 Aspects of Co-operation***

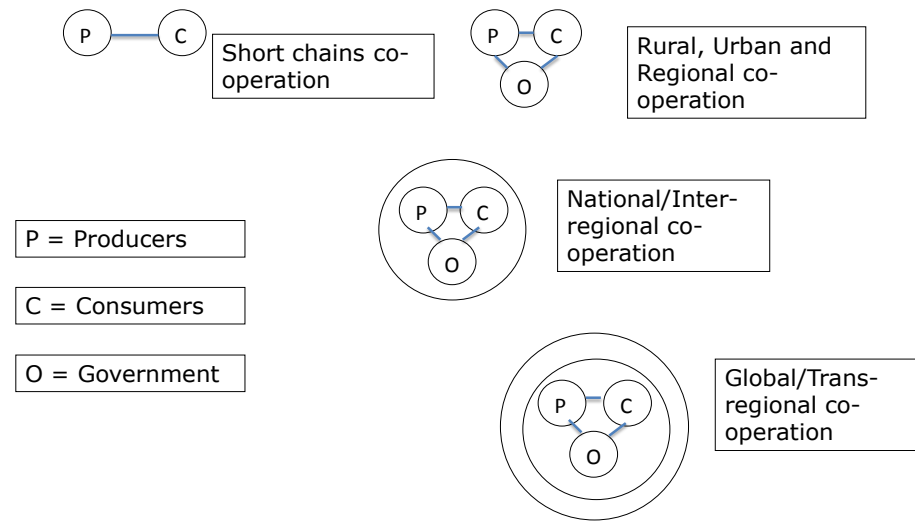
From a social perspective, one can picture an agricultural firm producing food or a consumer or a family that consumes food. The notion of regional, in the sense of co-operation, deals with a group of farms as an entity that produces local products, and a group of households as a unit that consumes local food. “Local food co-operation” refers to the more or less formalized relationships between these producers and consumers.

In operating within local food systems, or short chains, the consumer can immediately trace the origins of his products; thus, a relationship of trust is formed between producer and consumer. Local food systems may also result in lower transport costs (fewer food miles); recycling systems; organic waste and water management; re-use of side products (e.g. heat); and renewable energy. They even contribute to the maintenance of particular tastes, biodiversity, and varieties of species, particularly those in danger of disappearing. According to the CR (2011), local food systems support the local and regional economies, and are particularly important to areas that have missed other opportunities; thus, they are driving forces in promoting local potential and providing neglected and underappreciated areas with a better image.

“Rural-“, “urban-“, or “regional food co-operation” occurs when the countryside, city, or region, respectively, is an explicit element in the co-operation. This is the case when the aims of the co-operation also imply a valuation of the geographic region itself. Due to the public character of the geographic region, as a rule, the (local) government also plays a part in the co-operative relationship.

If one were to expand from a regional food system, the development of interregional or national co-operation is witnessed. “Cross-regional (trans-regional) co-operation” or “global co-operation” occurs when regions in different countries develop social relationships and nearness (Figure 1); thus, the associated/appropriate levels of government are responsible for administrating different levels of a food system.

Figure 1. Local and regional co-operation



Short chains, rural-, urban-, and regional food systems can take various forms. In Table 3 and Section 4.0, a classification scheme and supported examples are presented. The regional food systems deserve closer attention, as these systems play a critical role in the regionalization of agriculture and food. Not only do groups of producers and consumers play a part, together with (local) governments and other area parties, but the region itself with a rural-urban reach, is also subject of the co-operation. As demonstrated in Table 2, the population density of a region differs along with the nature of co-operation in the regional food system.

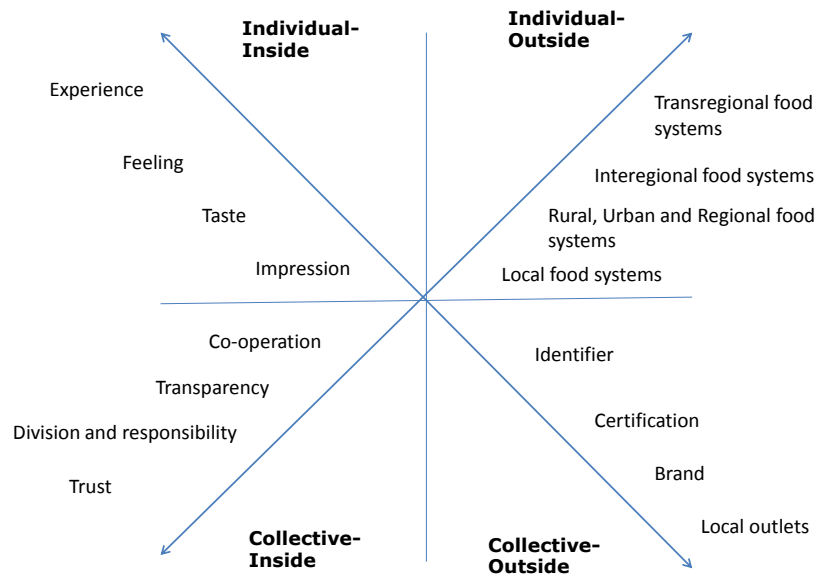
Table 3. *Classification of food systems*

15		Food systems	
<b>Producer-consumer</b>		1	Short chains
<b>Producer-consumer - government</b>	<b>Local</b>	2	Rural food systems
		3	Urban food Systems
	<b>Regional</b>	4	Regional food systems (Rural-Urban)
			- High population density: Metropolitan food systems Corridor food systems Conurbation food systems
		- Low population density: Cityside food systems Connected cities food systems Countryside food systems	
		5	Interregional or national food systems
		6	Cross-regional or global food systems



In returning to Wilbur’s ontological scheme, the classification system can also be added to create a more holistic understanding of food systems: the intentional, cultural (co-operation development), behavioural, and social (stages of communication) dimensions of the food systems. In Figure 2, Wilbur’s scheme (Table 1) is completed through the inclusion of relevant elements from local and regional food systems.

Figure 2. Holistic series of Wilber



The four quadrants do not represent exclusive series; rather, they interact with one another as a collective whole, and relate to inside-outside and individual-collective forms of food systems. The categories within each of the four quadrants are complementary perspectives; consequently, an “integral” approach can only be achieved when all categories in all quadrants are taken into account. The right-upper quadrant illustrates the “holarchy” of the local and regional food systems, as presented in this paper. Each level contains the foundations of its predecessor and adds its own distinguishing and characteristic elements. The left-upper quadrant expresses the internal feelings and intrinsic values of the local and regional food systems. Forms of subjectivity and internal consciousness are coupled with the external forms of the right-upper quadrant. Impressions, the vague notion of the intrinsic values of local and regional food systems, start with short chains: direct contacts between producers and consumers. The conviction that taste can be developed as an exclusive value of local and regional food appears as an argument in the building of rural, urban, and regional food systems. The feeling or awareness among people that regional food systems become stronger when neighbouring regions co-operate, is found in interregional food systems. Experience and discovering values of global food arise in trans-regional food systems, or at least in the minds of people that encourage thoughtful and responsible eating, the communal nature of food, and the important role that food plays in the world.

Local and regional food systems also display collective inside and outside aspects. The collective inside, or cultural quadrant (left-lower), represents the internal meanings, values, and identities that people share in similar communities. The

collective outside, or social quadrant (right-lower), refers to the external, material, and institutional forms of these communities, and deals with the objective and concrete components. Co-operation in the field of local and regional food systems begins with producers and consumers in short chains. People typically express this collaboration in low profile, often employing some type of identifier. Transparency is an indispensable value in rural, urban, and regional food systems, which serves to easily demonstrate what actions are performed, and implies openness, communication, and accountability that are often formalized through some type of certification system. Responsibility and division of work have a significant impact on the socio-economic and socio-technical aspects of interregional co-operation, while branding initiatives can be very helpful for cooperating regions to grow their markets. Once a local product is recognized as desirable, local producers have the opportunity to scale up to larger distribution systems within and between regions. Trust forms the basis of all good relationships, and frames the dynamics of inter-group and intra-group interactions at the local, regional, national, and global levels. International relationships between people increase the awareness of contemporary food issues, while local food outlets provide the ultimate place where consumers can find, taste, experience, and buy the local and regional food. Moreover, local food outlets have significant opportunities to showcase foreign foods; to exchange international performances; to experience cultural demonstrations that allow for cross-cultural communication; and increase the awareness of food practices and culinary treats in a global context.

### **3.0 Local Governance Systems**

In this section, some general information on local governance structures is presented, followed by an example of a governance system in the field of local implementation of spatial development policies. This example is drawn from the Netherlands, as there exists a long history of public participation in political practice in this country. The section concludes with a discussion of local and regional food governance.

#### ***3.1 General***

The starting point of governance is the recognition that government is not the only voice in the direction and coordination of public space and policy; rather, it involves both governmental and non-governmental parties. Governance systems are directing systems that aim to provide beneficial outcomes for the whole of society (Young, 2009). Various forms of interaction exist in terms of transactions between these parties: spatial, societal self-direction, distance control of governments, public-private partnership, round table and societal dialogues, etc.

In an era of human-dominated ecosystems, Delmas and Young (2009) observed a deficit in governance concerning the environment, due to a general waning confidence in the capacity of governments. They demonstrated how governance systems need to fit their specific settings, and how effective policies can be developed without an exclusive reliance on government. The future of environmental policies is argued to reside within coordinated systems that engage actors, and are located in the public, private, and civil sectors.

In the Netherlands, public participation was initiated as a means to improve democratic quality, and developed into institutional procedure and eventually right in the 1990s (Coenen et al., 2001). HarmoniCOP (2005) identified the principles that guide

participation processes (openness, protection of core values, speed, substance) with regard to water management discussions. These principles are also valuable in other participation processes, as well as in the processes of developing governance systems.

### ***3.2 Governance in the Field of Spatial Development***

After the breakout of classic swine fever in 1997, the Dutch national government announced an ambitious spatial measure: the reconstruction process. Initiated in areas of the original outbreak, over time the approach extended to encompass additional issues in the fields of environment, nature, landscape, water, and economy (Reconstruction Act). The Dutch national government responded to the problem of seizing implementation of sectoral policies by applying the principle of subsidiary. In the reconstruction case, on the basis of starting points of the central government, the provinces had to develop practical reconstruction plans in cooperation with municipalities, water boards, and social parties. These parties worked together in “reconstruction committees” that were tasked with defining spatial prevention measures for such outbreaks as swine fever: e.g. pork-free zones and the development of reconstruction areas and agricultural development areas. In 2004, the central government developed a new strategic national spatial policy (Nota Ruimte, 2004).

Once again, instead of writing detailed sectoral plans for local implementation, an integral framework of aims was provided. With the handing over of tasks related to spatial development by the national government, the local governments became burdened by heavy commitments. Local implementation then became the task of local committees (NL: gebiedscommissies) that often cooperated with the existing reconstruction committees.

An evaluation (Boonstra et al., 2007) of the reconstruction revealed that, in practice, provinces maneuver between the wishes of the national government, their own policy priorities, and the wishes of area coalitions (local governments, water boards, societal groups, etc.). The quantified objectives constitute a strict framework for local implementation, while flexibility is required to integrate sectoral policies (Kuindersma & Selnes, 2009). The research established that citizens themselves practiced little direct influence; however, this is not surprising given that citizens did not take part in the implementation phase. Over time, the aims of government leaned increasingly toward measures for the improvement of environmental quality; however, participants in reconstruction committees that played a large role in local committees, were selected on the basis of the swine fever issues alone. Participants in the field of agriculture and food were representatives of vested agricultural organizations that played a large part in the development of industrial agriculture; therefore, it is not astonishing that the interests served were those of the industrial agricultural sector. In looking back on the development, the reconstruction areas have become concentration areas of large-scale agriculture and food (mega farms), anticipating further liberalization of the world market. Only marginal attention was paid to realizing a vital countryside with multifunctional farms, and hardly any interest was expressed toward a local or regional approach.<sup>2</sup> These lessons have demonstrated that it is extremely important to consider which partners or participants are involved in the governance process.

---

<sup>2</sup> Contradictory movements were witnessed. On the one hand, farms that were close to population centers or close to nature areas were transferred to the agricultural development areas. While, on the

### ***3.3 Governance in the Field of Local and Regional Food***

Central questions concerning the governance of all regional food systems relate to the interesting relationship between urban and rural area development and sustainable food security challenges: The interaction and strengthening of the relationship between the social, cultural, ecological, and economic diversity and vitality of the regions and locals within the region, on the one hand, and desired regionalism and food provision, on the other hand, that demands secured government interference. This involves the identification of key elements of the specific geographic areas; working with regional leaders and food businesses in specific geographic areas and/or communities; identifying and measuring key indicators to monitor the regional food systems; and developing and implementing a process for continuous learning (Leopold Center for Sustainable Agriculture, 2006).

Governance relates to all levels of food systems. The different levels of governance are important, and they must be attuned to one another. For a multi-level governance of food systems to be developed, the starting point of decision-making must occur at the lower levels (grass-roots movements, food networks, peasants' movements, social campaigns, etc.), and end with the decision-making systems dominated by states and international organizations. The governance system should be built within the region and with parties that are directly involved in the regional development. In developing regional food systems, the producers/farmers and consumers/citizens should be the core parties that take the lead.

The term “governance” (Boonstra et al., 2006) is applied to situations with the following combination of characteristics:

- Multi-actor: policymaking is an open, interactive process involving multiple, mutually interdependent public and private actors
- Multi-level: various government tiers (e.g. European, national, local) collaborate in policymaking
- Multi-significance: policymaking is a collective process of attaching significance to nature and the landscape.

---

other hand, rural policies tried to bring citizens in contact with farmers in the neighbourhood and/or as a recreant/tourist near nature areas.

In Table 4, an overview is presented of governance in different local and regional food systems, which will be discussed further in Section 4.0.

Table 4. *Governance for local and regional food systems*

	<b>Levels</b>	<b>Aims</b>	<b>Stakeholders</b>	<b>Tools</b>
1	Short chains	Increasing direct markets between producers and consumers	Practical farmers/producers and consumers	Co-operation
2	Rural food systems	Creating employment opportunities and making rural attractive	Practical farmers/producers, local governments, area parties	Supporting, facilitating, rural co-operation
3	Urban food systems	Exploiting urban challenges and opportunities for sustainable food production and biodiversity in urban and peri-urban areas	Practical farmers/producers, citizens, local governments, area parties	Supporting, facilitating, urban co-operation
4	Regional food systems	Natural development self sufficiency and sustainable food security in the region	(Organizations of) producers and consumers, local and regional food systems, regional governments, area parties	Integral regional planning, regional co-operation, transparency, certification
5	Interregional food systems	Increasing efficiency, exchange information, products and services	National governments, local and regional food systems, area parties	Creating logistics hubs, regulations, interregional co-operation, responsibility
6	Cross-regional food systems	Attaining conditions favourable for national, regional and local interests	National governments, international governance bodies, cross-regional and national food systems, representatives of international movements	Building international connections, international agreements, cross-regional co-operation, trust

For a multi-level governance system to be developed, a territorial basis is required where local, national, and international authorities and stakeholders work together. Multi-level governance and territorial planning across the urban-rural continuum are also two of four dimensions of the new food system paradigm promoted by the Food and Agriculture Organization of the United Nations (FAO). This provides a flexible framework for popular food and nutrition security (Custot & Gianfelici, 2012). The other two dimensions of the new FAO paradigm relate to a people-centered, social development policy and natural resources management. These are two issues of sustainability on which the industrial system of agriculture and food have failed. According to FAO, all partners must work together to develop and implement local policies in each city. These policies should not be restricted to cities but also applied to urban-rural linkages.

## **4.0 Local and Regional Food Governance Systems**

This section covers the governance of local and regional food systems, and provides examples from throughout the world. Subsection 4.1 pays attention to producer-consumer interaction in short chains, while Subsections 4.2 to 4.6 address producer-consumer-government interactions that take place in rural, urban, regional, interregional, and cross-regional food systems, respectively.

### ***4.1 Short Chains***

“Short chains” enhance the direct contact between food producers and consumers. This contact covers purchases by consumers within the area who are aware of when and how the food is produced, as well as purchases by consumers outside of the area who are aware of the origin and appreciate the value and meaning of the place of production. Marsden et al. (2000) have characterized this situation as Short Food Supply Chains (SFSC).

In short chains, producers and consumers are directly connected in their transactions, including through online sales. Additional examples include sales at the farm (e.g. “Pick Your Own”); farmer’s markets; nearby kitchen gardens; city nurseries; city and urban agriculture; pure markets; “Farm to Fork”-projects; Community Supported Agriculture (CSA); organic allotment gardens; Pergola-constructions; and Neighbour-supers. At the level of short chains, various initiatives take on smart forms and are so strong that they have become irreversible (Brand et al, 2010). Overall, direct communication with consumers is the determining and crucial factor. Farmers may create added value by processing their food themselves. When this processing is outsourced, it is important to keep control over the end product and consumer contact: a feature lacking in the current dominant agricultural systems.

In 2012, the European Commissioners for Agriculture and Rural Development and for Health and Consumer Policy organized the Agri/Sanco Conference: Local Agriculture and Short Food Supply Chains, to address ways and means to mobilize and value the economic potential of local agriculture and short food supply chains. These possibilities include focusing on the use of policy instruments; facilitating access to markets as well as reinforcing links between farmers and consumers; and improving the implementation of relevant hygiene legislation applied to short food supply chains. The EU (2012) sees the short supply chains as part of agricultural diversity.

*Example of short chains governance: Raw milk production and consumption.*

In many places in the world, farmers sell their raw milk directly or through local vendors who go deep into the countryside to purchase milk from small farmers. More than 80% of the milk marketed in developing countries, and 47% of the global total, follow such a route (Grain, 2011). These short chains are a key source of nutrition and subsistence for those with dairy animals, and are affordable for those without. These short chains are threatened by intentions to prohibit the consumption, sale, and transport of unpasteurized milk, that would be “unhygienic” or of “poor quality”. These recommendations stem from food safety arguments that are based on screening and separating monocultures under hygienic control by using antibiotics, and encompassed by large tracking systems, as are in operation in the western industrial systems of agriculture and food. An alternative way to ensure health might be to increase the power of resistance to disease. Food safety is achieved through the raising of healthy animals and the growing of healthy crops/plants. In these short chains, healthy animals and plants are cared for in as natural as possible settings that emphasize rich biodiversity; moreover, with direct contacts between producers and consumers, complex tracking systems are not required. Under these conditions, there is less of a fear concerning problems when milk (under hygienic conditions) remains unpasteurized. Some studies even indicate that consumption of farm milk may offer protection against asthma and allergy (Waser et al., 2007).

Our food systems can be improved by increasing the associated social and ecological values. This process begins with a vague notion of the value of food and the way it is produced. Awareness of this can be best realized through direct relationships between producers and consumers. Consumers learn to appreciate what we eat, where it comes from, and are able to enjoy it. Restoration of the ties between consumers and producers brings back the human dimension of food systems. Better co-operation between consumers and producers may also result in the shortening of food chains, by skipping one or more intermediate actors in the chain. Short chains can further be stimulated by the creation of innovative outlets and marketing strategies.

#### **4.2 Rural Food Systems**

In this subsection, “rural food systems” are addressed as part of rural-urban linkages. On a global level, rural areas are poorer than urban zones: a characteristic that has led to mass migration from the countryside by those searching for better standards of living in cities. The majority of citizens now live in cities, even though standards of life are often lower in urban and peri-urban regions. In order to lift rural populations out of poverty, changes are required in the rural regions proper. Cities and towns both contribute directly to agricultural production through knowledge, technology, and other professional input, and constitute the marketplace for rural production (Tibaijuka, 2009). According to Verburg (2009), rural areas could gain more independence and generate income through increased access to urban market facilities.<sup>3</sup>

---

<sup>3</sup> In the Vision statement of the 17<sup>th</sup> Session of the UN-Commission on Sustainable Development (Verburg, 2009, p.1), the following was noted: “Making urban market facilities accessible to regional

Cities rely on rural food production and have been found to benefit from a sustainable supply of rural products and ecosystem services; however, the reward for these products and services is off balance. Gutman (2007) has suggested a more equitable system through the “new rural-urban compact”.<sup>4</sup> Implementing the compact, combined with an ecologically sustainable agricultural food production system, would maintain or improve biodiversity, create employment opportunities, and increase income for rural communities. This would help improve social inclusion of youths and other groups, along with the appeal of living in the countryside. Positive and effective links between rural and urban areas are needed to establish better living conditions in rural areas, and this must be integrated within regional food policies that stimulate the role of governments, development agencies, and international bodies. This could stop rural social exclusion, make the rural attractive (Aun et al., 2012), and improve youth integration in rural areas (Shucksmith, 2012).

*Example of rural food governance: Impact of small and private farmers on rural development in Russia.*

The broad objective of Russia’s agricultural policy is to increase Russia’s food self-sufficiency and export of some basic food products. Specific objectives are sustainable rural development (increased rural employment and improved rural living standards); improved competitiveness of Russian agriculture; and natural resources conservation. Within this context, Russia welcomes foreign knowledge, entrepreneurs, and investors to contribute to the establishment of global supply chains and support of small and medium-sized enterprises. Government policy is oriented toward diversification. Currently, small and private farms produce half of the food in Russia, and could make a huge impact on rural agricultural development. Increasing production means increasing rural employment and the gaining better incomes for rural workers; consequently, rural living conditions are improved. Special attention has been paid to the reconstruction of family farms on the basis of peasant holdings in the region; however, the system is not structured. Despite lack of money for their execution, there are programs for small farms, both at the central level (e.g. The Russian Agency for Small and Medium Enterprises Support in Moscow) and at the regional level (e.g. Krasnodar’s “regional portal of small businesses”; [www.mbkuban.ru](http://www.mbkuban.ru)).

Though rural food systems should be seen as part of rural-urban linkages, reasons do exist that favour giving rural food systems special attention. Rural food systems are best served in a coherent rural development setting, where agricultural production and employment go hand in hand for the purpose of increasing food security and improving quality of life. FAO (2012) has demonstrated the urgent need for increased policy coherence between employment and agriculture interventions in the fight against hunger.

---

and local producers will create urban-rural linkages that could slow rural-to-urban migration, stimulate local economic development, and strengthen food security.”

<sup>4</sup> The “new rural-urban compact” delivers the food and fibers required by the world, while also able to: a) improve the jobs and income opportunities of the rural population, b) reduce the rural-urban divide, and c) reverse the current trend of environmental degradation that is jeopardizing both people and nature.



Stimulating rural economic development and producing more and diversified products, not only for personal use but also for a marketable surplus, can generate the necessary incomes. In order to find outlets for this surplus it is necessary to make urban markets accessible to local producers. This might also revitalize small-scale food processing and stimulate agricultural enterprise. As FAO (2003) has highlighted, there is need for transfer and exchange of practical information, which could be fulfilled by executing extension programs. Such a development process could result in attractive rural areas with less rural to urban migration, and requires close co-operation between public and private partners.

### ***4.3 Urban Food Systems***

In this subsection, “urban food systems” are addressed as part of rural-urban linkages. Urban agriculture is defined as producing food and food products within the city and its suburbs, whilst also providing non-food products and services to city dwellers (AUS, 2012). Urban agriculture has become significant within cities, both in developed and developing countries. The challenges that urbanized areas meet when sustainable food production is introduced can be huge. Examples of urban agricultural pursuits include community gardens; roof top farming; greenhouse systems (e.g. Denckla, 2011); BioTop-trays on flat roofs; urban permaculture (Holmgren, 2002), etc.

Urban agriculture has been recognized as a multi-pronged tool to address food security, food sovereignty, and issues tied to food deserts. It is gaining recognition as a source of livelihood, employment, community development, and as a tool for the efficient use of urban natural resources. It also plays a significant role in biodiversity conservation (Havaligi, 2012).

*Example of urban food governance: Food provisioning in the rapidly growing city of Dar es Salaam.*

Small-scale, low capital, intensity modes of production are found to be competitive and holding their own against the supermarkets, while making important social and environmental contributions (Wegerif, 2012). The effectiveness of the small-scale industry challenges the necessity of ‘modern’ production and retailing required to feed the cities. Urban food provisioning benefits from enhancing these valuable food networks.

From various studies it appears that urban agriculture is spontaneous and faces a lack of policy support (Wang & Stokman, 2012), or it is not an independent item in urban policies (Haesman, 2012) but rather part of a sustainable urban policy of the city. Governance approaches should support and facilitate urban co-operation between local farmers, local governments, area partners, citizens, and consumers; as such, it is necessary for urban, peri-urban, and rural farmers to work together. In a co-operative setting they can complement their production and achieve higher volumes.

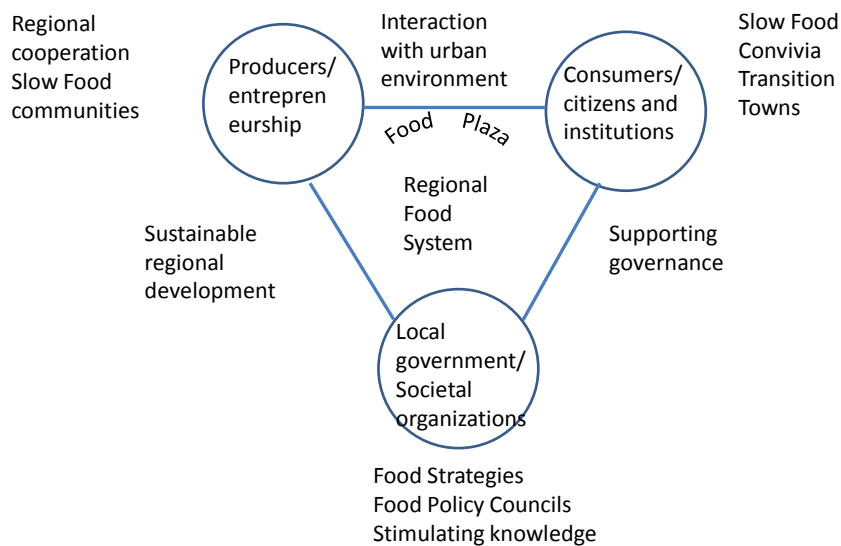
### ***4.4 Regional Food Systems***

If a local food system of producers and consumers interacts with local governments and other local partners, a solid “regional food system” can be established. Within such systems, producers, consumers, and governmental bodies connect at a regional level, aiming to develop sustainable food security and self-

sufficiency for an entire region. Such regional food systems could become a core focus in a regionalized approach, as opposed to the current national and global set-ups. More independent systems of agriculture and food distribution would enable closer connections between producers and consumers, leading to enhanced land management and conservation in the region.

Within regional food systems, interference of the (local) governments is necessary because changes in the regional food system may have a huge impact on spatial arrangements and the social-economic, cultural, and ecological development of the areas. These regional food systems are the heart and soul of the regional approach. Figure 3 presents an overview of regional food systems and interactions between actors.

*Figure 3.* Regional food systems



The regional food movement is still in its infancy; thus, practical examples where three parties (producers, consumers, government) co-operate formally remain scarce. What is often observed is that each of these parties is involved in the realization of a local or regional food system in their own way. Producer initiatives include communities of Slow Food (Slow Food Editore, 2006), while projects established by consumers include Transition Towns (Hopkins, 2008) and Slow Food Convivia. Examples of initiatives undertaken by local governments include urban strategies [e.g. London Food Strategy and Proeftuin Amsterdam (Brand et al, 2010)] and food policy councils [e.g. The Toronto Food Policy Council (Toronto Public Health) and the Tilburg Food Policy Council (Plantinga, 2010)].

Proeftuin Amsterdam was an urban strategy that promoted healthy and more sustainable eating in the metropole region of Amsterdam. The initiative combined the municipalities of Amsterdam and Zaanstad, the province of Noord-Holland, the national government, and other parties. Aims included the improvement of the relationship between city and environment; health for citizens of Amsterdam; and health for the environment and local products from the region. Outcomes included new economic perspectives for farmers by the selling of their products and services to citizens; citizens gained an awareness of the meaning of the countryside; governments at local (municipalities), medium (province), and national (ministry)

levels worked together with societal parties, entrepreneurs, and other parties on different projects; school children visited farms near Amsterdam; a sustainable food distribution for the city (partly electric); more local markets; public events on sustainable food; healthy lunches at schools; sustainable meals in homes; and the municipality played a directing and connecting role in this co-operation.

The strength of the parties and the development of these regional food systems improve tremendously when more forms of co-operation are undertaken, and local governments play an important role; however, co-operation is difficult and is not always flexible, certainly not in the case of different interest groups. This means that individual interests and leadership must be overcome in favour of bringing people together. The Advice of the Committee of the Regions of the European Union (27/28 January 2011) was positive concerning the development of local and regional food systems, and intended to support these in professional, structured, and innovative ways.

#### **4.4.1 Metropolitan and cityside food systems**

The term “metropolitan food system” is applied in situations of high population density. A metropolitan region comprises a central city and its surrounding rural areas. Rural areas are interconnected with the city, and the valuable surrounding landscape may even penetrate the city, including wildlife areas and watersheds; for example, The metropolitan region of Amsterdam incorporates the green Amstelland area that reaches practically into the city centre.

Chinese cities are entirely dependent upon their environs, and for a decade they were almost completely self-sufficient. The total population of the metropolitan region of Handan was almost 8.5 million (urban population was 1.36 million) by the end of 2002, including almost 7 million agriculturalists and more than 1.5 million non-agriculturalists. Handan is the third largest city in Hebei province, and people live in small compact villages in the environs of the city. By contrast, the urban portion is relatively small. Using large-scale industrialized methods of agriculture and food, as Western countries, is predicted to lead to enormous rates of unemployment and a greater push of people into the city centre. The Chinese government has already anticipated this trend by building city enlargements, high-rise flats, and industrial areas, while at the same time destroying the villages in the environs. However, the new cities are currently empty because ordinary people cannot afford the new dwellings.

A “cityside food system” involves a lower population density, which is centered in and around a smaller city with rural, food producing areas directly connected with the city centre. An example of a potential regional cityside food system is the Eindhoven region in the Netherlands, including its three “city gates” (Karpen, Strijp, Gennep Parks). The rural areas of Peel, Meierij, and Kempen penetrate Eindhoven through these city gates, almost into the heart of the city centre.

#### **4.4.2 Corridor and connected cities food systems**

A “corridor region” occurs when two or more cities and their environs, or two or more metropolitan areas, become connected with each other through a corridor. When dealing with cities with low population density, the term “connected cities region” is used in place of corridor region. Rural and urban activities are intertwined within the area, in between and around the cities; for example, The Iowa Corridor Food & Agriculture Coalition is a regional network of partners in Iowa City and Cedar Rapids Corridor region, whose aim is to revitalize the food

and agriculture system (ICFAC, 2011). Another example of a corridor food system is based on the Twin Cities in Minnesota. The food system of Minneapolis and Saint Paul links the two towns by creating a local, equitable, and sustainable system for the production, processing, transportation, and distribution of food (Planning and Community Health Research Center, 2012).

#### 4.4.3 Conurbation and countryside food systems

A “conurbation” is a region comprised of three or more tied cities with high population density and their environs spanning a central rural area. An example in the Netherlands is found in the Randstad: a rim-shaped region that includes the cities of Amsterdam, Utrecht, Rotterdam, and The Hague, with a “green heart” at its centre. Other examples include the Ruhr in Germany, with Emscher Park at its centre (Lethmate & Spiering, 2012); and Midlandton in England, which is a conurbation consisting of the cities of Birmingham, Wolverhampton, Dudley, and Walsall, with many local nature reserves (Black Country Living Landscape, 2012).

When a region with tied cities and a green heart has a lower population density, the term “countryside region” is applied. Examples include the Vechtdal, a riverine border area in the Netherlands between the towns of Zwolle, Meppel, Hoogeveen, Almelo, and Nordhorn-Germany (Donkers et al., 2006; Donkers, 2008; Donkers & Immink, 2008); the area in and around the Loonse and Drunense Duinen, between the towns of Waalwijk, 's-Hertogenbosch, and Tilburg; and the so-called “Groene Woud”, which is the green area between the town-triangle of Eindhoven, 's-Hertogenbosch, and Tilburg. Another countryside region in the Netherlands that is currently under development is “Boerenhart”. This is not a region with clear geographic boundaries; rather, it has historical boundaries and consists of a conglomerate of smaller units in different provinces/counties (Gelderse and Utrechtse Vallei, Eemland, Veluwe and Flevoland), each with a distinctive identity, history, and character (Boerenhart, 2012). In this region, a number of food related sustainability initiatives have been developed. Not only do they stimulate tasty, healthy, and responsible local foods, but they also serve to recover and create sustainable connections between towns and their environs, farmers and citizens, and nature and (agri) culture ([www.platformdgo.nl](http://www.platformdgo.nl)).

In all of these areas, it is the independence of agriculture and food systems that is important, which enables optimal interweaving of farmers and citizens, producers and consumers, and contributes to optimal (quality) use of space.

*Example of regional food governance: Regional (typical) products in bids for local and regional governments.*

Regional producers want to be considered suppliers in bids for catering to the municipalities, hospitals, schools, etc. (<http://aardeboerconsument.nl/lokale-boeren-cooperaties-willen-ook-in-aanmerking-komen-voor-aanbesteding>).

Currently in the Netherlands, products from regional farmers are not considered for municipal catering unless they are certified organic. For the successful development of regional food systems, it is critical that local and regional production (based on ecological criteria and socio-economic sustainability) also be considered as criteria for sustainable catering purchase. This can be based on sustainability criteria and self-regulation of the local and regional food systems themselves.

Regional systems of agriculture and food focus on the human level. The social aspects of connecting people are presented in the notion of “social nearness”, or “proximity”. This value of “embeddedness” is presented in the degree to which stakeholders contribute to regional development. Social nearness occurs within regions, while proximity occurs between regions. In regional food systems, social proximity is the norm, and the associated regional initiatives often develop a regional brand (using some certification scheme), often in co-operation with neighbouring regions.

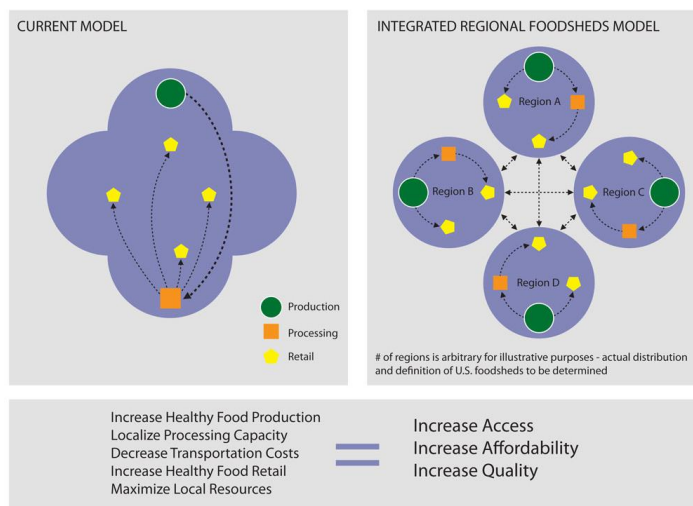
Regional food systems offer opportunities for small farmers. Regional production and possibilities for the creation of “value added” at the farm level, also allow farmers to earn a reasonable income.

The regional framework is the best option for developing careful ecological processes, largely closing the resource and energy cycles and interconnecting crop growing and animal husbandry. The interaction between agricultural production and the natural environment demands integral regional planning. Such organization should cover the entire region; promote policies that balance the use of croplands, the desire for natural habitats, and the desirability of agro fuels; and should enhance transparency. Public policies can further stimulate regional co-operation through preferential procurement by local authorities for government food programs, and developing new, locally arranged forms of capital.

#### 4.5 Interregional/National Food Systems

“Interregional” or “national food systems” occur when various regions within a country develop some form of co-operation with one another. This sort of co-operation is important because it enables a “scaling-up” of the regional food systems through the development of “food hubs” (Figure 4). Mount (2011) has noted that it is not easy to scale-up local food systems; however, it is important to note the multiple values determined and how associated processes are structured in the governance of such systems. A powerful example in the USA is the interregional development demonstrated through the National Integrated Regional Food System project of the Massachusetts Institute of Technology (MIT) (Albright, 2010).

Figure 4. Refocusing the food system – conceptual model



Source: Taken from Albright (2010).

In interregional food systems, governance is directed toward the interaction between regions. According to Derden-Little and Feenstra (2006), the governance process of interregional food system should have a national focus, and the branding of agricultural products as the building blocks for economic development is critical. The process of developing local food policies varies considerably, and a number of countries have initiated national policy to stimulate regional food systems.

In the Netherlands, a national policy toward regional food systems has had little priority. In 2009, 150 local initiatives presented themselves to the national government and asked for support. The result was the inauguration of a “platform”, with participation of only traditional parties, with no representatives of consumers and small-scale initiatives (Ministry of LNV, 2009a, 2009b). Currently, co-operation between various regional initiatives is gradually taking place, supervised by the Platform Aarde-Boer-Consument (Platform ABC).

In the Iijima region of Japan, where farming was likely to deteriorate, Alam et al. (2008) demonstrated that with active farmers’ participation, a regional agricultural reform could be stimulated.

In Canada, an example would be the grassroots-led initiative on a national food policy: Food Secure Canada (FSC) (<http://foodsecurecanada.org>). The program is based on three interlocking commitments: zero hunger, a sustainable food system, and safe and healthy food. FSC aims to unite people and organizations working for food security, nationally and globally.

In the USA, government policies that support the development of local and regional food systems are part of the “Know Your Farmer, Know Your Food” national initiative. The Leopold Center for Sustainable Agriculture Iowa Local Food & Farm Plan 2011 states that reconnecting consumers and institutions with local producers will stimulate economies in rural communities; improve access to healthy, nutritious food for families; and decrease the amount of resources to transport food. In 2010, The Healthy, Hunger-Free Kid’s Act was signed into law for farm and school programs, which aims to help connect local farmers interested in selling fresh produce and other items to interested schools. Other states, as well as metropolitan areas such as New York City, have invested in their own local food economies and have developed statewide local food plans.

In the EU, official policy is oriented toward liberalizing and finishing production control. The Committee of the Regions is working toward developing local and regional food systems, and has developed a territorial framework for multi-level governance with application toward food and nutrition security for urban and rural communities (CR, 2011). This framework acknowledges that decentralized co-operation for both policy and development has emerged as a new and important dimension of development co-operation.

Ziping et al. (2008) have argued that regional agriculture forms the basis for sustainable development. Regional integration is considered a solution for strengthening regional agricultural markets, and the authors stipulated that regional agriculture should be the focus of future global research. They also developed a classification scheme of the Chinese regional agricultural structure, using indices of natural resources, levels of development of the agro-economy, and agro-ecological conditions. Regional integration is presented as a solution for strengthening regional agricultural markets.

*Example of interregional food governance: Toward a regional food policy in Europe.*

Various organizations in The Netherlands (Platform Aarde Boer Consument, Afrika-Europa Netwerk, Boerengroep Wageningen, Nederlandse Akkerbouw Vakbond, Nederlandse Melkveehouders Vakbond, XminY Solidariteitsfonds, Transition Towns) advocate for a regional food policy in Europe. The current European Common Agricultural Policy is under discussion and can be amended in 2014. The organizations believe that the time has come for a more democratic, environmental friendly, and local–regional policy, following decades of multinationals and WTO control. Food is not a global trade object, but a primary necessity of life and a human right. What is needed is flexible market regulation, with stable agricultural prices that allow for honest incomes for farmers and fair prices for consumers. International trade in agriculture should be based on principles of equity, social justice, and ecological sustainability; good labour conditions and access to agricultural land; respecting the worldwide environment; protecting biodiversity and finite stocks of agricultural land and water; increasing animal welfare and decreasing use of fossil fuels; mitigating power concentrations of food processing industries and retail, and their influence on what is produced and consumed; supporting food systems that diminish the distance between farmers and consumers; ensuring transparency throughout the food chain, to inform citizens about the ways their food is produced, its origins, its contents, and how the consumer price is determined; promoting healthy eating patterns and direction toward diets with higher vegetable content, while respecting the various eating cultures of Europe; promoting local seasonal products of good quality; and teaching children the skills and knowledge to produce, prepare, and enjoy healthy and nutritional food.

It is now time to develop a regional policy in the field of agriculture and food at a national level, which could connect and support the increasing initiatives. It is important that this process involves the selection of appropriate people and participants, who can manage their governance responsibilities. With regard to the embeddedness of producers and consumers in interregional food systems, the social proximity between regions must be addressed: a precondition for interregional development and cultural co-operation.

#### ***4.6 Cross-Regional/Global Food Systems***

“Cross-regional” or “global food systems” occur when regional food systems of different countries find ways to co-operate. Twinning provides the opportunity for an exchange of views and experience, and to learn from each other: a step taken by the network of Community Supported Agriculture (Urgenci, 2012). The current twinning of various Slow Food Communities is another example of such development. In reality, cross-regional food systems are scarce; however, many organizations invest in international networks and connections that benefit local and/or national interests. Holt-Giménez (2011) works with farmers, communities, and social movements to eliminate the injustices that cause hunger. They believe in a people’s right to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems (at home and abroad). This is possible if farmers and

communities retake control of the food systems presently dominated by transnational agri-food industries.

Governance in cross-regional food systems deals with relationships between food systems the world over, requiring a global focus. A new policy, built on the concept of sustainable food security, is required to develop a society with prosperous inhabitants, well-functioning eco-systems, and the right to food, food production, and food safety.

International bodies, such as the Organisation for Economic Co-operation and Development (OECD), the World Trade Organization (WTO), and the United Nations (UN), have begun to prioritize “green growth”. OECD (2011) developed this new trend of green growth, which aims to stimulate economic growth and employment through the sustainable use of natural resources, efficient energy use, and (economic) valuation of eco system services. Together with OECD and other global programs, the United Nations Environment Programme (UNEP) focuses on green economy and international governance, dealing with the major stakeholders. The WTO is charged with the supervision of trade agreements between countries, with the underlying philosophy being that international trade is the best and most effective way to promote, develop, and maintain world peace and prosperity; therefore, any obstacle to international free trade must be removed. Consequently, the WTO represents an arena where all members defend their own trade interests (Maes, 2002). GATT, a precursor of WTO, is one of the underlying WTO-treatments in which trade liberalization negotiations (goods, services, and intellectual property rights) take place in rounds. Because of negotiation difficulties, the Doha-round (initiated in 2001) remains incomplete. The International Monetary Fund (IMF) and World Bank even introduced a policy of withdrawal of governments in favor of foreign investors (e.g. multinationals).

This philosophy of trade liberalization contradicts the core values and beliefs of the local and regional food systems discussed in this paper. The main problem remains that, in reality, world trade is not free due to the previously mentioned monopolistic and oligopolistic conditions. The inelasticity of the agricultural market is not suited to rapid movements; moreover, food is a necessity of life that should not be submitted to free market policy.

Various organizations and social movements campaign against multinationals and their (inter) national spheres of influence and instruments of power; for example, the Action for Solidarity, Equality, Environment, and Development (ASEED) targets the restricting conditions and structural causes of environmental problems and social injustice. At the same time, sustainable alternatives and the development of farmer-consumer connections are promoted. Another example is La Via Campesina (McMichael, 2007) that defends small-scale sustainable agriculture and promotes local food sovereignty, while Alternatives to Neo-Liberalism in South Africa (ANSA) is a project of joint labor unions in South Africa. Important principles include regional integration led by grassroots organizations; autocratic development; foundations built on domestic human needs; the use of local resources; and the building of progressive alliances at the national, regional, and global levels (Kanyenze et al., 2007).

The International Finance Corporation (IFC), supported by the EU, started an initiative to strengthen the private agricultural sector in the south of Africa. The Regional Agricultural Food Security Forum tackled the question of how to provide



easier access to finance production for small-scale farmers, while The International Development Research Centre (IDRC) looks at the international negotiations related to food security and associated organizations (Tansey & Rajotte, 2008).

*Example of transregional food governance: Rio+20 and beyond.*

The 2012 Rio+20 Conference focused on “green economies”, to attain a new political engagement for sustainable development and fighting poverty. The Outcome Document mentions that Rio+20 is committed to the urgent freeing of humanity from poverty and hunger. This approach allows for continued growth with up-scaling consequences and further world trade liberalization, though with greater attention on sustainability and poverty eradication. By contrast, this article argues that in order to realize food security for “regional economies”, a focus on local and small-scale approaches is more appropriate. This is also recommended by the UN Rapporteur on the Right to Food (Schutter, 2011; UN, 2010) and the EU-Committee of the Regions (CR, 2011). This immediate focus on regional economics has repercussions for trade liberalization policies. Apart from green economies, attention should be paid to limiting trade liberalization, to allow countries and nations to make their own food policies and to oppose oligopolistic tendencies at the world market level.

Social proximity between regions is also a precondition for cross-regional development. In this age of information technology, with its abundant availability of social media, proximity does not necessarily imply physical or geographical nearness. These new media can serve as an important vehicle in cross-cultural communication.

Supplying markets and consumers from the closest sources possible does not imply that all foods can and should be produced and consumed locally or regionally. International trade remains necessary and desired to supply (at reasonable economic and environmental costs) products that cannot be grown by local farmers; moreover, the exchange of foods between regions (facilitated by food labels and specific local outlets) can contribute to greater intercultural understanding.

To achieve food sovereignty, a change is required from current public policy that focuses on trade liberalization, to policy that focuses on multi-level governance structures. Interactions between all relevant stakeholders can boost trust in the world food systems, and voices are required of all stakeholders: one of the tasks of the UN Committee on World Food Security. There is a need for policy that allows farmers worldwide to live from the food they produce and to earn a decent income (also key to overcoming world hunger and poverty). Food production systems based on local resources and integrated with local and regional ecosystems are necessary, and imports and exports must meet associated social and ecological requirements. One possible manner of achieving such goals is to introduce production standards. The UN Convention to Combat Climate Change and the UN Convention on Biological Diversity are already pursuing attempts in this direction through biological diversity.

As stated above, the regulation of international food commodity markets is necessary. Pimbert (2008) has noted that subsidies in one country should not damage another; agri-business multi-nationals should not prevent farmers from accessing their own markets; seeds should not be patentable commodities; and rural credit and investment schemes should be designed to support family agriculture. Other measures to be considered include exempting food and agriculture from free trade agreements;

decreasing unfair oligopolistic competition; prohibiting dumping; and guarantee stable and fair prices and incomes for food producers. These measures would simplify the economic access to food for large groups of people.

The development and ratification of a new global treaty, based on the concept of sustainable food security, should aim for a fair society, economically thriving inhabitants, well-functioning/healthy eco-systems, and sufficient and safe food for all humans.

## **5.0 Conclusions**

The current dominant system of agriculture and food is an industrialized system based on mainstream economic growth. World trends of climate change, peak oil, and food crises related to poverty, ecology, and nutrition, demand a new approach. Through a new paradigm termed “sustainable food security”, food sovereignty and food safety are rewarded, alongside quality and fairness in economic relationships, and a reconsideration of ecological (biodiversity) and social values. Systems of local and regional agriculture and food are best suited to tackle these issues.

In defining regional food systems, geographic considerations and co-operation are requisites. A region is defined as an inseparable entity of (parts of) one or more cities and countryside environs. Rural-urban linkages are thus characteristic features of regions. Regional food systems arise when producers, consumers, and governments of these regions cooperate in one form or another.

A workable classification of local and regional food systems has been presented, which enables a more systematic approach to the various initiatives observed throughout the world. The first category consists of producer-consumer interaction in local food systems, or short chains, with rural, urban, or rural-urban reaches. In the second category, producer-consumer-government interaction takes place in rural, urban, regional, interregional, and cross-regional food systems, with rural, urban, rural-urban, national, and global reaches, respectively. For each level of classification, definitions, general information, examples, and discussion of the appropriate food governance approach was provided.

At the level of short chains, various initiatives have taken smart forms, and associated developments are at times so strong that some believe they have become irreversible. Regional initiatives, though varied, include producers, consumers, and governments taking on formal roles in the development phase. Examples included slow food communities, *convivia*, transition town initiatives, and food policy councils.

The strength of all parties involved within a system improves considerably when more forms of co-operation are undertaken at different levels; however, this does not prevent severe obstacles from arising. Co-operation is difficult and often inflexible, particularly in the case of a large group of individual entrepreneurs or groups with differing and often conflicting interests. This means that individual interests must be overcome: leadership is required to orient people in a single direction. The careful selection of partners in the governance process and structure is therefore critical.

Many food initiatives are taking place in various countries; however, connections with national/interregional food systems are still in their infancy and deserve national government support. At the level of global/cross-regional food systems, most interactions take place at the policy level of various institutions. In many cases, confrontations are observed between established institutions and societal movements.

To stimulate local and regional systems of agriculture and food, new policy is required. In Western countries following World War II, both centralized government policy and knowledge development led to industrial agriculture and food systems. Policies toward regional systems of agriculture and food are in arrears, and it remains difficult to scale-up local and regional food systems. The processes through which such systems are governed and structured are critical to their success. A regional-oriented policy is needed that is tuned to the different hierarchical levels; although, these policies should not be restricted to cities or countryside, but to rural-urban linkages. At a global policy level, governed international trade is necessary to mitigate the power of monopolistic and oligopolistic elements.

Making up arrears at the level of policy building will contribute to a society of prosperous inhabitants, well-functioning eco-systems, the right to food and food production for all, and food safety. Further study is needed regarding the implementation of new local and regional food systems. This is a holistic process that, apart from policy interventions, demands the development of adequate knowledge and innovation; investments and new forms of financing; and information and communication technologies and marketing.

The development and ratification of a new global treaty, based on the concept of sustainable food security, should aim for a fair society; economically thriving inhabitants; well-functioning/healthy eco-systems; sufficient and safe food for every human; and achieved through the development of local food systems for a global future.

## 6.0 Acknowledgements

An earlier draft of this paper was presented at the *Wageningen International Conference on Chain and Network Science*, Wageningen, The Netherlands, May 23<sup>rd</sup> – 25<sup>th</sup>, 2012. The author thanks Lout Jonkers, Marc Wegerif, Greet Goverde, Jill Crofton and Petra Crofton for their valuable comments.

## 7.0 References

- Alam, K., Sasaki, T., & Sadekeen, S. (2006). Activation of organizational management in agricultural reform: A case study of Iijima Town, Japan. *Journal of International Farm Management*, 3(3), [Online]. Available: [www.ifmaonline.org](http://www.ifmaonline.org), 1-12.
- Albright, T. E. (2010). *Applying systems analysis and collaboration to critical social concerns*. MIT Collaborative Initiatives. Cambridge, USA.
- Aun, N. J. L., Norder, A. C., & Fagundes, G. G. (2012). The involvement of new rural population in the sustainable rural development. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- AUS (2012). *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations, 1-4 April*, Programme book & Book of abstracts, Wageningen: WUR.
- Black Country Living Landscape (2012). *Welcome to the Black Country Living Landscape*. [Online]. Available: <http://www.bcll.org.uk>.

- Boerenhart (2012). *Boerenhart*. [Online]. Available: [www.boerenhart.nl](http://www.boerenhart.nl)
- Boonstra, F. G., Buunk, W. W., & Pleijte, M. (2006). *Governance of Nature*. WOt-rapport 33, Wageningen UR.
- Boonstra, F. G., Kuindersma, W., Bleumink, H., de Boer, S., & Groot, A. M. E. (2007). *Van varkenspest tot integrale gebiedsontwikkeling Evaluatie van de reconstructie zandgebieden*, Alterra Rapport 1441, Wageningen.
- Brand, L., Schendelen, M. C. van, & Vermeulen, P. O. (2010). *Naar een metropolitane voedselstrategie*, Amsterdam: Dienst Ruimtelijke Ordening.
- Brundtland Commission (1987). *Our Common Future*. World Commission on Environment and Development, Oxford: Oxford University Press.
- Chappell, M. J., & LaValle, L. A. (2011). Food security and biodiversity: can we have both? *Agriculture and Human Values*, 28, 3-26.
- Clancy, K., & Ruhf, K. (2010). Is Local Enough? Some Arguments for Regional Food Systems. *Choices, The Magazine of Food, Farm, and Resource Issues*, 25(1). [Online]. Available: [www.choicesmagazine.org](http://www.choicesmagazine.org).
- Coenen, F., Peppel, R., & Woltjer, J. (2001). De evolutie van inspraak in de Nederlandse planning. *Beleidswetenschap*, 4, 313-332.
- Cotler, A. (2009). *The Locavore Way, Discover and enjoy the pleasures of locally grown food*. Massachusetts: Storey Publishing.
- Committee of the Regions of the EU (CR) (2011). *Lokale voedselsystemen*. Rapporteur: Lenie Dwarshuis-van de Beek (NL/ALDE), 27/28 januari 2011.
- Custot, J., & Gianfelici, F. (2012). A new food system paradigm for food and nutrition security in an urbanizing world. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- DeLind, L. B. (2011). Are local food and the local food movement taking us where we want to go? *Agricultural and Human Values*, 28(2), 273-283.
- Delmas, M. A., & Young, O. R. (Eds.). (2009). *Governance for the Environment: New Perspectives*. New York: Cambridge University Press.
- Denckla, D. (2011). The Greenest, The Brooklyn Grange, a rooftop farm business in Long Island City. [Online]. Available: [www.cityfarmer.info](http://www.cityfarmer.info).
- Derden-Little, E., & Feenstra, G. (2006). *Regional agricultural marketing: A review of programs in California*. University of California, Oakland, USA.
- Donkers, H., Immink, V., & Bijman, J. (2006). With every bite a better countryside (in Dutch with English summary). *Wetenschapswinkel Wageningen UR, Report 218* (pp. 88). Wageningen.
- Donkers, H. (2008). Vechtdal Food Community, a case of regional agriculture in the Netherlands. *Journal of Rural Development, NIRD, Hyderabad, India*, 27(1), 67-89.
- Donkers, H., & Immink, V. (2008). Regions, finger-licking good. Handbook Regional Agriculture, with Vechtdal Overijssel as an example (in Dutch with English summary). Landwerk, Wageningen, 318 pp.

- Donkers, H. (2012). Local food systems for global future. Sustainable food security, a paradigm for local and regional food systems. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- Egmond, K. Van. (2010). *Een vorm van beschaving*. Zeist: Uitgeverij Christofoor.
- EU (2012). Agri/Sanco Conference: ‘Local agriculture and short food supply chains’, Initiative of Dacian Cioloş and John Dalli, European Commissioners for Agriculture and Rural Development, and for Health and Consumer Policy, Brussels, 20 April. [Online]. Available: [http://ec.europa.eu/agriculture/events/2012/small-farmers-conference/programme\\_en.pdf](http://ec.europa.eu/agriculture/events/2012/small-farmers-conference/programme_en.pdf)
- FAO (2003). Agricultural Extension Rural Development and Food Security Challenge’ William McLeod Rivera in collaboration with M. Kalim Qamar, Rome: FAO. [Online]. Available: [www.fao.org](http://www.fao.org)
- FAO (2012). Decent rural employment for food security: A case for action, Rome: FAO. [Online]. Available: [www.fao.org](http://www.fao.org)
- Geertsen, S., Jansen, A., van der Lecq, R., & Wolting, P. (1999). Het corridorconcept op regionaal schaalniveau. *Rooilijn, Tijdschrift voor wetenschap en beleid in de ruimtelijke ordening*, 32(8), 410-414.
- Grain (2011). The great milk robbery, How corporations are stealing livelihoods and a vital source of nutrition from the poor. [Online]. Available: <http://www.grain.org/article/categories/14-reports>
- Gutman, P. (2007). Ecosystem services: Foundations for a new rural-urban compact. *Ecological Economics*, 62, 383-397. [Online]. Available: [www.sciencedirect.com](http://www.sciencedirect.com).
- Haesman, M. (2012). Policy challenges for urban agriculture: evidence from the cities of Vancouver, New York, London and Copenhagen. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- HarmoniCOP (2005). *Learning together to manage together. Improving participation in water management*, Osnabruck. [Online]. Available: [www.harmonicop.uos.de](http://www.harmonicop.uos.de)
- Havaligi, N. (2012). Urban agriculture - an (unlikely) biodiversity conservation tool? Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- Hennig, E. (1996). *Geheimnisse der fruchtbaren Böden*. Organischer Landbau, OLV Verlag, Kevelaer.
- Holmgren, D. (2002). *Permaculture: Principles & Pathways Beyond Sustainability*. Hepburn Victoria: Holmgren Design Services.
- Holt-Giménez, E. (Ed.). (2011). *Food Movements Unite!: Strategies to Transform Our Food Systems*. Oakland: Food First Books.
- Hopkins, R. (2008). *The Transition Handbook: from oil dependency to local resilience*. Green Books.

- ICFAC (2011). *Sustaining & strengthening our communities with a community based food system*. The Iowa City and Cedar Rapids Corridor Region. [Online]. Available: [www.farmland.org](http://www.farmland.org)
- Ingemann, J. H. (2009). Food and agricultural system development information and knowledge. *Encyclopedia of Life Support Systems (EOLSS)*. [Online]. Available: [www.eolss.net](http://www.eolss.net)
- Jensen, J. (2010). *Local and regional food systems for rural futures*. RUPRI Rural Futures Lab Foundation Paper No.1. [Online]. Available: [www.rupri.org](http://www.rupri.org)
- Kanyenze G., Kondo, T., & Martens, J. (2007). *The search for sustainable human development in Southern Africa*. South Africa: ANSA, Creda Communications.
- Klimaat en voedselcrisis (2011). *Duurzame kleinschalige landbouw als deel van de oplossing*. België: Oxfam.
- Kuindersma, W., & Selnes, T. A. (2009). *Het Investeringsbudget Landelijk Gebied: Synergie en strijd tussen governance en prestatiebesturing in het plattelandsbeleid*. Wageningen: Alterra.
- Lethmate, G., & Spiering, H. (2012). *Emscher Landscape Park - a new regional park in the Ruhr area*. [Online]. Available: <http://www.fedenatur.org/docs/docs/238.pdf>
- Leopold Center for Sustainable Agriculture (2006). *Developing a Vibrant and Sustainable Regional Food System, Suggestions for Community-Based Groups, Regional Food Systems*. Iowa: Working Group (RFSWG) Subcommittee.
- Local Food Systems (2011). *Background and issues*. [Online]. Available: [www.localfoodsystems.org](http://www.localfoodsystems.org)
- Maes, M. (2002). Met hoop op beterschap. Besluitvorming in de Wereldhandelsorganisatie, opgenomen. *Tijd om te handelen, vragen bij de Wereldhandelsorganisatie, NoordZuid cahier, 27(2)*, 107-116.
- Marsden, T., Banks, J., & Bristow, G. (2000). Food Supply Chain Approaches: Exploring Their Role in Rural Development. *Sociologia Ruralis, 40*, 424-438.
- McMichael, P. (2007). *La Via Campesina, A ground-breaking study of the rise of this significant new political and social force*. Ithaca, NY: Cornell University Press.
- Ministry of LNV (2009a). *Duurzaam Voedsel*. [Online]. Available: [www.rijksoverheid.nl](http://www.rijksoverheid.nl)
- Ministry of LNV (2009b). *Nieuwsbrief Duurzaam Voedsel, Kleinschalige initiatieven, September 2009*. [Online]. Available: <http://edepot.wur.nl/11991>
- Mount, P. (2011). *Growing Local Food: Scale and Local Food Systems Governance*. Guelph, ON: Department of Geography, University of Guelph.
- Nota Ruimte (2004). *Nota Ruimte, Ruimte voor ontwikkeling*. Ministry of VROM. [Online]. Available: [www.rijksoverheid.nl](http://www.rijksoverheid.nl)
- OECD (2011). Towards green growth. [Online]. Available: [www.oecd.org](http://www.oecd.org)
- Pimbert, M. (2008). *Towards Food Sovereignty. Reclaiming autonomous food systems*. London: IIED.

- Planning and Community Health Research Center (2012). *Eating Local in Twin Cities: A Rough Guide to the Region's Food System*. [Online]. Available: [www.planning.org](http://www.planning.org)
- Plantinga, S. (2010). *Als door een Voedselbril... , Een onderzoek naar de randvoorwaarden, mogelijkheden en beperkingen voor het opzetten van een Food Policy Council in Tilburg*. Afstudeerwerkstuk Wageningen Universiteit.
- Schutter, O. de, UN Special Rapporteur on the Right to Food, 2011. A tale of four hungers?, Lecture Series: 'Agriculture, Rural Employment, and Inclusive Growth. NCDO, The Hague.
- Shiva, V. (2011). India's food security emergency, Corporate influence on food production and large, chemical monoculture farms is causing a severe food insecurity crises. *Al Jazeera*, 12 July 2011.
- Shucksmith, M. (2012). Social exclusion of young people in rural Europe. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- Slow Food Editore (2008). *Terra Madre, 1600 Food Communities*. Milan: Slow Food Editore.
- Smith, C. S., & McDonald, G. T. (1998). Assessing the sustainability of agriculture at the planning stage. *Journal of Environmental Management*, 52, 15–37.
- Stuurgroep Metropolitaan Landschap (2007). *De kracht van het landschap*. Haarlem: Provincie Noord-Holland.
- Tansey, G., & Rajotte, T. (Eds.). (2008). *The future control of food, a guide to international negotiations and rules on intellectual property, biodiversity, and food security*. London: Earthscan.
- Tibajuka, A. (2009). There is no sustainable development without sustainable urbanization. Statement by Dr. Anna Kajumulo Tibajuka, UN-Under-Secretary-General at the 17<sup>th</sup> Session of the UN-Commission on Sustainable Development, New York.
- Transforum (2011). *Groeien naar een duurzame agro-sector, de resultaten van zes jaar Transforum*. Zoetermeer: Transforum.
- UN (2010). *The right to adequate food*. Fact Sheet No. 34. New York: United Nations Human Rights.
- Urgenci (2012). The international network of community supported agriculture. [Online]. Available: [www.urgenci.net](http://www.urgenci.net)
- Verburg, G. (2009). *Vision Statement*. Chair of the Seventeenth Session of the UN-Commission on Sustainable Development, 15 May 2009. New York: United Nations.
- Wang, X., & Stokman, A. (2012). People's attitudes towards intra-urban agriculture in China. Take Beijing as an example. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.

- Waser, M., Michels, K. B., Bieli, C., Flöistrup, H., Pershagen, G., von Mutius, E., Ege, M., Riedler, J., Schram-Bijkerk, D., Brunekreef, B., van Hage, M., Lauener, R., Braun-Fahrländer, C., & the PARSIFAL Study team (2007). Inverse association of farm milk consumption with asthma and allergy in rural and suburban populations across Europe. *Clinical & Experimental Allergy*, 37(5), 661-670.
- Wegerif, M.C.A. (2012). Laying eggs for the City: An initial exploration of divergent modes of egg supply to Dar es Salaam. Paper presented at *Agriculture in an Urbanizing Society (AUS), International Conference on Multifunctional Agriculture and Urban-Rural Relations*, Wageningen.
- Wilber, K. (1996). *A Brief History of Everything*. Berkeley: Shambhala.
- Wittman, H., Wiebe, N., & Desmarais, A. (Eds.). (2011). *Food Sovereignty: Reconnecting Food, Nature and Community*. Black Point: Fernwood Publishing.
- Young, O.R. (2009). Governance for sustainable development in a world of rising interdependencies. In M. A. Delmas & O. R. Young, O.R. (Eds.), *Governance for the environment: New perspectives* (pp. 12-40). New York: Cambridge University Press.
- Ziping, M., Hongmei, L., Guanping, C., & Xin, L. (2008). Classification of regional agricultural structure: method and its application to China. *Ecological Economy*, 4(4). [Online]. Available: <http://www.cnki.com.cn>