

PART III

Chapter 10

Global dimensions of malnutrition: Territorial perspectives on food security and nutrition policies

by

Vito Cistulli, Stina Heikkilä and Rob Vos,
Food and Agriculture Organization of the United Nations*

Despite impressive progress in reducing hunger and poverty, about 800 million people worldwide continue to suffer from undernourishment. Food insecurity and malnutrition are problems affecting rural areas in particular, as part of a pattern of deep-rooted spatial inequalities. Conventional sectoral agriculture and food policies often overlook such territorial disparities and, consequently, are unlikely to suffice to meet the sustainable development goal of ending hunger and achieving food security for all by 2030. This chapter argues that food security and nutrition policies would greatly benefit from a territorial approach. A territorial approach to food security and nutrition goes beyond a simple rural-urban dichotomy. The development of strong and mutually reinforcing rural-urban linkages is important for the development of agriculture and food systems at large, but will not be effective if it does not consider competing uses for land, water and other natural resources and plans infrastructure and basic services within and between different territorial contexts.

This chapter should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the author(s).

The views and opinions expressed in this chapter are those of the authors and do not necessarily coincide with those of the FAO or its member states.

* Vito Cistulli is senior economist in the Social Policies and Rural Institutions Division; Stina Heikkilä is assistant programme co-ordinator for Strategic Programme 3: Reduce Rural Poverty; and Rob Vos is director of the Agricultural Development Economics Division.

Introduction

Much progress has been made in reducing hunger and improving food security worldwide. In the developing countries, the prevalence of undernourishment declined from 23% around 1990 to an estimated 13% by 2015, virtually reaching one of the targets of the millennium development goal of halving hunger during that time span (FAO, 2015). Yet, the Food and Agriculture Organization of the United Nations (FAO) estimates that 780 million people continue to suffer hunger, despite the fact that enough food is produced to feed everyone.

These trends and conditions differ markedly across countries and regions. Most of the reduction in undernourishment has taken place in Asia, influenced by changes in highly populous countries such as the People's Republic of China and India. The prevalence of undernourishment fell at a much slower pace in Africa. It is also the only region where the absolute number of people suffering from hunger increased (by nearly a quarter of a billion between 1990 and 2015). Despite slow progress for the region as a whole, 18 sub-Saharan countries managed to halve the prevalence of hunger.

Spatial divergence is also found at subnational levels. About three-quarters of the world's poor and food insecure live in rural areas. Many of them depend on agriculture and, more in general, they are mostly found in areas that are disadvantaged more generally with inadequate infrastructure and poor access to markets and services.

Such spatial inequalities should be taken into account in order to effectively address challenges of food security and nutrition (FSN). In practice, however, policies remain heavily reliant on sectoral approaches, using predominantly agricultural trade, price and subsidy policies to influence food production and availability, while social policies and social protection schemes support the poor in accessing food.

Neither sectoral policy nor market forces are sufficient to account for the heterogeneity of challenges faced by rural and other disadvantaged areas and to optimise the development potential of territories. As argued in this chapter, a territorial approach to food security and nutrition goes beyond a simple rural-urban dichotomy. The development of strong and mutually reinforcing rural-urban linkages is important for the development of agriculture and food systems at large, but will not be effective if it does not consider competing uses for land, water and other natural resources as well as plans for infrastructure and basic services within, and between, different territorial contexts. This would require broader territorial planning, not just for remote, sparsely populated rural areas on the one hand, and high-density big cities on the other, but across the whole spectrum from remote rural areas, rural townships, intermediate cities and metropolises. Ideally, such territorial planning would surmount political-administrative boundaries.

From this perspective, the concept of “functional” territories developed by OECD (2002) and defined as “the functional space resulting from the organisation of social and economic relations in that its boundaries do not reflect geographical particularities or historical events” provides a more suitable framework to address food security and

nutrition issues. This definition implies that FSN should be seen as the result of social and economic exchanges of food and related services taking place between actors (producers, traders, service providers, including environmental services, and consumers) who are located in different geographic areas that do not necessarily match with administrative boundaries or rural-urban divides. Operationally, the FSN functional area can thus be obtained by mapping the dynamics of food systems.¹

Looked at this way, territorial approaches facilitate policy design that considers all four dimensions of FSN in an integral way. These four dimensions refer to food availability, access, utilisation, and stability.²

In September 2015, the governments of all UN member states endorsed the 2030 Agenda for Sustainable Development, which includes 17 Sustainable Development Goals (SDGs). Eradication of poverty and hunger feature at the top of this agenda (UN, 2015). The agenda further calls, among other things, for reducing inequalities between and within countries, inclusive economic growth and making agriculture and food systems sustainable. The goals are part of a universal agenda and are considered indivisible, that is, coherence of interventions should be sought in pursuing them. The pervasive spatial inequalities in FSN in themselves justify that territorial dimensions are given due consideration in policies and interventions aiming at the eradication of poverty and hunger and all other related SDGs. This chapter will argue that the case is much stronger than that and show that territorial approaches facilitate policy coherence across multiple domains of policy making and governance, as required by the 2030 Agenda for Sustainable Development.

Based on the existing evidence and on the evidence generated by five case studies prepared within the framework of a FAO, OECD and UNCDF initiative (OECD, FAO and UNCDF, 2016), the following sections explain how a territorial approach can contribute to achieving the policy coherence needed for guaranteeing FSN in the context of inclusive and sustainable development. Drawing from the literature and the case-study findings, the next section provides some evidence of the spatial dimension of FSN and shows that within-country disparities in FSN levels are a concern that cuts across countries, both for developed or developing countries. The following section reviews trends and structural transformations that will affect food security and nutrition conditions and their spatial distribution over the coming decades. It identifies key challenges and opportunities and how policies should respond to these. Based on an assessment conducted in five countries, the extent to which countries are engaged in policy processes that include a territorial approach is then discussed. It concludes that policy makers are showing increased awareness of the importance of integrated policy frameworks that consider spatial and context-specific situations, but that instruments and governance mechanisms to implement territorial approaches are lacking or have been poorly developed. The final section proposes a number of further directions of change to strengthen national capacities in adopting territorial approaches to food and nutrition security.

Spatial inequalities in food security

While spatial diversity of food security levels have often been looked at either through a global North-South or urban-rural divide, data analysed in Cistulli et al. (2014) and OECD, FAO and UNCDF (2016) show a trend of growing within-country inequalities, especially among developing countries that tend to be at most risk of food insecurity. These studies also find that food security needs and issues are context specific. Rural food security issues are not the same as for urban areas and food security issues in remote rural areas are not

the same as in the peri-urban areas. Capital endowments, including infrastructure, human capital, social capital, and natural resources, influence household decisions regarding food security and nutrition. Being less endowed in infrastructure, other physical, human and social capital, rural areas tend to show significantly higher poverty and food insecurity rates than urbanised territories, most notably in remote areas with difficult access to infrastructure and basic services. Spatial inequalities within countries are found in many nations, whether low-income developing countries or high-income industrialised countries. The so-called food deserts in the United States are one manifestation of this (Ver Ploeg et al., 2009), while wide disparities in levels of food security across provinces and municipalities in South Africa is an example from a middle-income country (Cistulli et al., 2014). The studies conducted by FAO, OECD and UNCDF in five countries covering Latin America, Africa and Asia confirm the important food-place nexus. The table below summarises some of the evidence found of within-country disparities in the countries studied.

Table 10.1. Spatial inequalities in terms of poverty and food security in selected developing countries

FAO-OECD-UNCDF case study findings	
Colombia	Data for 16 out of 32 departments show that the gap between the national average rate of food insecurity and malnutrition is over 20 percentage points: from 40.8% (national average) to over 60% in the top 6 departments (Nariño, Chocó, Sucre, Bolívar, Magdalena and Córdoba). Extreme poverty varies between 9.4% in the Atlántico department to 37.6% in La Guajira.
Peru	Across departments, the share of children under age 5 suffering from chronic malnutrition ranges from 3.7% (Tacna) to 35% (Huancavelica), while the food insecurity vulnerability index varies from 0.0138 (Callao) to 0.716 (Huancavelica) between the least to the most exposed department. The most vulnerable and food insecure departments are found in mountainous areas.
Cambodia	Malnutrition rates appear to be persistently higher in the remote areas of the Northeast, and lower around the capital city. An aggregate picture of territorial inequalities with regards to FSN generated by small area estimates shows that levels of stunting for children under age 5 range from 31% in the capital province of Phnom Penh to 50% in the Northeastern province of Ratanakiri, while the share underweight varies from around 18% (Phnom Penh) to 36%.
Morocco	Morocco has undergone a rapid urbanisation process and most of the urban population is concentrated in the fertile plains and coastal areas of the Northwest region, where economic activities are mainly located. 70% of Morocco's poor people live in rural areas, and are concentrated in its drylands and the remote mountainous areas. Small, poorly connected fishing villages along the coast also show high poverty levels. Regions that are significantly above the national average poverty rate (9%) are: Gharb-Chrarda-Béni Hssen (19.0%), Souss-Massa-Darâa (18.3%), Doukkala-Abda (17.4%), Guelmim-Es-Semara (17.3%), Fès-Boulemane (16.8%) and Meknès-Tafilalet (16.8%).
Côte d'Ivoire	Poverty, food insecurity and malnutrition are especially pronounced in rural areas of Côte d'Ivoire, especially in the Northern regions. In 2008, the Nord region had a poverty rate close to 80%. Poverty rates in the Ouest and Centre-Ouest regions were close to 63% in the same year, while the Sud-Ouest and Sud-sans-Abidjan showed poverty rates of less than 45%. In 2012, 35% of children under age 5 living in rural areas suffered from chronic malnutrition compared to 21% in urban areas. Chronic undernourishment among children was the highest in the regions Nord (39%) and Nord-Est (34%).

Source: OECD, FAO and UNCDF (2016), *Adopting a Territorial Approach to Food Security and Nutrition Policy*, <http://dx.doi.org/10.1787/9789264257108-9-en>.

In summary, evidence suggests that territorial related factors play an important role in determining levels of poverty and food security and nutrition and vulnerability, and that coherent and integrated policies are necessary to create the enabling and conducive environment for inclusive and sustainable development. As demonstrated by the case studies conducted in the framework of the joint FAO, OECD and UNCDF report, awareness and engagement of countries towards a stronger territorial focus and integrated policies to eradicating hunger and poverty is increasing. This understanding was also expressed by the King of Morocco in a speech to the nation on the occasion of the launch of the Human Development Initiative in 2005 (referenced in OECD, FAO and UNCDF, 2016). He pointed out

that fragmented and ad hoc interventions based on social assistance or on sectoral approaches are not sufficient to sustainably improve people's livelihoods. Integrated policies and coherent strategies are needed, which consider all relevant political, social, economic, educational, cultural and environmental dimensions.

Agriculture and rural transformations and territorial development

Five important trends are of particular importance for understanding the relevance of territorial approaches for future food security and nutrition: i) agricultural transformation and economic diversification; ii) urbanisation and demographic growth; iii) dietary transition; iv) climate change; and v) technological transition. All of these trends contribute to the transformation and food system processes.

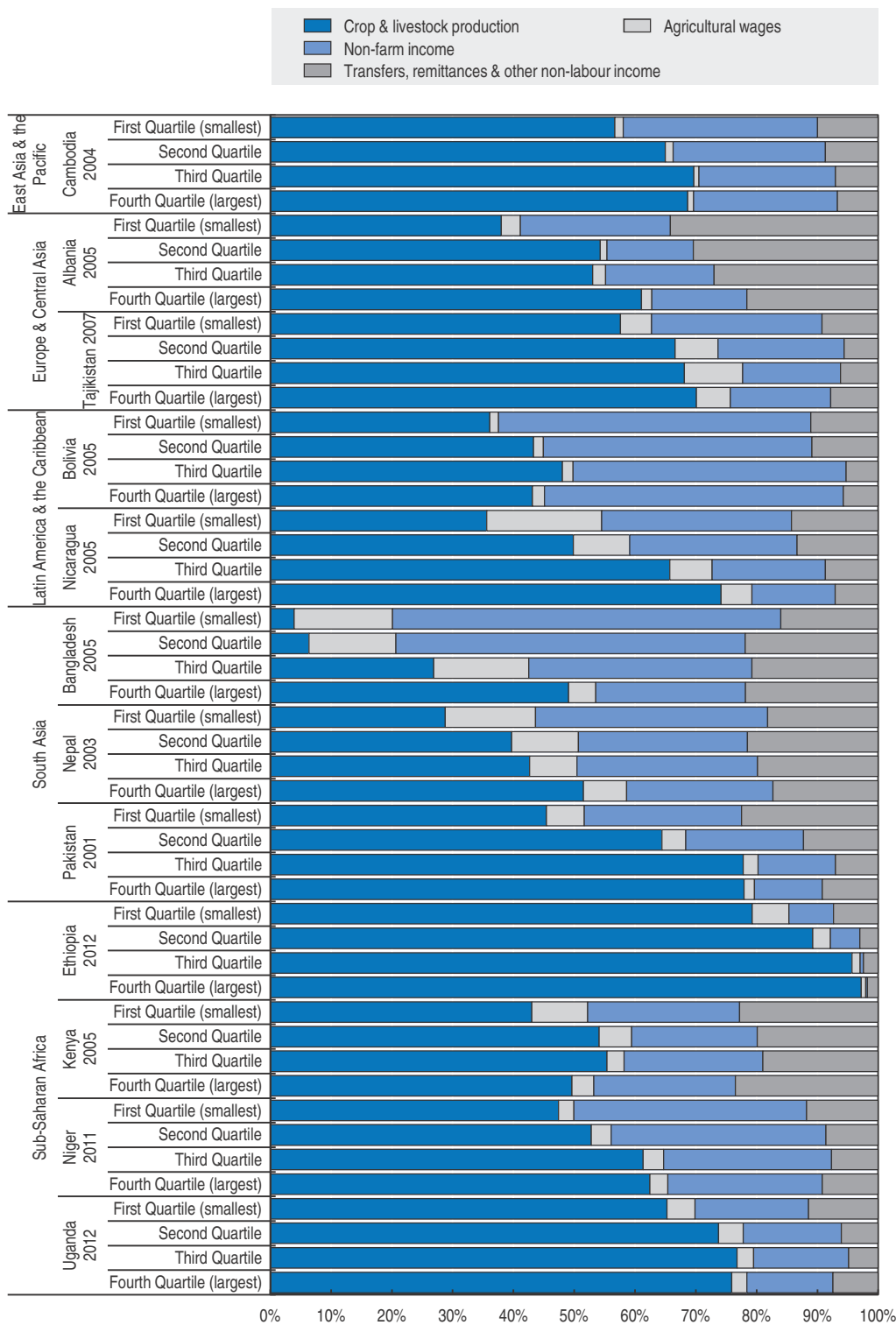
Agricultural transformations and economic diversification

Historically, economic development has been associated with declining shares of agriculture in total output. This is the result of the gradual diversification of employment and income sources. Evidence across regions and through history indicates that in initial stages of development, agricultural labour productivity is low and farm households residing in rural areas are poorer. Increasing labour productivity in agriculture is necessary in order to increase incomes, reduce poverty and hunger, and make farmers more competitive. Increased agricultural labour productivity also means that, over time, fewer jobs will be created in agriculture and demand for non-farm employment will rise. In many developing countries, especially in Africa and South Asia, agriculture remains a main source of income and employment and the described process of structural change is still in its initial stages or has stagnated. Incomes in agriculture are on average (much) lower than in urban areas and more volatile. Income diversification also takes place in these contexts, but often more as a strategy for survival than part of dynamic economic growth processes. Poor farm households adopt income diversification strategies to smooth consumption in the face of high vulnerability to agricultural income shocks. Diversification can be on-farm (e.g. planting a crop or variety mix, or combining crop and livestock operations) or off-farm (e.g. differentiating income sources through wage employment on others' farms or in other sectors, starting own business or migration of a household member).

Figure 10.1 illustrates the diversity in income diversification patterns for different farm sizes in developing countries in selected countries in Africa and Asia. These cases have in common that non-farm income shares are larger amongst households with the smallest farm holdings, a reflection of the situation described above as "immiserising diversification", i.e. diversification for survival rather than as part of dynamic structural transformation.

Economic diversification has important spatial dimensions. Both push and pull factors are relevant. Poverty pushes rural workers to seek alternative options through migration (seasonal or permanent; rural-rural or rural-urban), shifting population balances across territories. Such push factors are linked with imperfect and incomplete credit and insurance markets, stagnation in the agricultural sector, high transaction costs, and a lack of capacity to cope with adverse shocks, such as droughts or floods. Diversification merely driven by push factors does not necessarily lift average incomes and may lead to a transfer of poverty problems from one rural area to the next or from rural to urban areas. Pull factors, on the other hand, are associated with a thriving farm sector, able to free resources (financial and human) that will be employed in other sectors, including but not limited to,

Figure 10.1. **Average shares of household income, by source and farm size, in selected developing countries**



Source: FAO (2014a), *The State of Food and Agriculture 2014: Innovation in family farming*, <http://www.fao.org/3/a-i4040e.pdf>.
 StatLink <http://dx.doi.org/10.1787/888933412176>

agricultural related sectors, and improve income levels and food security as well as their stability over time. Dynamic economic diversification into non-farm activity is typically associated with improving access to markets, adequate infrastructure (roads, electricity, etc.) and basic services.

The challenge for countries and communities is to turn push factors into pull factors, requiring both lifting constraints to agricultural productivity growth and the creation of farm to non-farm linkages to trigger a more dynamic economic diversification process. Both elements have strong territorial dimensions linked to natural resource endowments and their distribution among the population and the location of dwellings, markets, infrastructure and services. Multi-sector territorial approaches require an assessment of the development potential of areas considering such territory-specific conditions.

Urbanisation and population growth

More than 50% of the world's population, or around 3.9 billion people, now live in cities and large towns classified as urban, and this figure is expected to rise to 66% by 2050. Only in Africa are rural populations expected to grow in absolute terms until 2030, after which these will also decline. Urbanisation will take place in a context of continued overall population growth, with the world population expected to increase to 9.7 billion by 2050 (UN-DESA, 2015). More than half of the projected world population increase will take place in Africa, whose population is expected to double to over 2 billion.

Urbanisation rates are currently lower in Africa and Asia as compared with other regions of the world. Based on current trends, however, these regions will also become predominantly urban, as the share of the urban population is expected to increase between 2010 and 2050 from 40% to 56% in Africa, and from 48% to 64% in Asia. Forty percent of global urban growth is expected to add to the size of secondary cities (less than 1 million inhabitants), while megacities are expected to grow to a lesser degree.

These population trends will pose enormous challenges to the future of food systems and competition for natural resource use. The proportion of the global population not producing food will continue to grow, while with expected income growth and increasing importance of urban food habits and dietary preferences will shift to greater consumption of higher protein and animal products (see also below).

Combined with the growing world population, changing dietary patterns imply that food production needs to increase from present levels by an estimated 60% over the coming decades, according to FAO estimates (Alexandratos and Bruinsma, 2012). Given that the agricultural land frontier has been (nearly) reached in most regions of the world, this increase in global food production will have to be achieved mostly through yield increases, but given expansion of urban areas and other non-agricultural land use, competition for land, water and other natural resources crucial to food production should also be expected to increase.

These challenges have led to increasing concerns about future urban food security. This is reflected, among other things, in the Milan Urban Food Policy Pact, signed by more than 100 mayors of small and large cities all over the world at EXPO 2015, and which proposes a framework for action for integrated rural-urban sustainable food systems. Such examples point to the importance of looking beyond the urban-rural dichotomy, and towards functional territories as defined at the outset of this chapter.

The dietary transition

Linked to the demographic trends and urbanisation, but also to economic growth, culture and technical progress, the shift from traditional staples to “Western style” processed products is characterised by an increase in the consumption of animal fats, as well as sugar, salt and vegetable oils (Pingali, 2007; Godfray, et al. 2010). Based on current trends, world meat consumption will double by 2050, which in turn will require access to grains and oil seeds that could otherwise feed 4 billion people directly (Carolan, 2011).

While the transition may have been faster in urban areas, evidence suggests that it is also taking place in the rural areas of developing world, especially among better off rural dwellers (Stage, Stage and McGranahan, 2010). Changing diets and the underpinning factors have an upside and downside: they have been a factor in reducing average rates of prevalence of undernourishment, but they have also been an important factor in pushing up rates of over-nutrition (obesity), which in turn is associated with negative health impacts. This dietary transition will push up natural resource use in agriculture, as existing livestock production technologies tend to be more intensive in the use of land, water, energy, and greenhouse gas (GHG) emissions than most crop production; hence, compounding the challenges mentioned above.

A related challenge of the nutrition transition is the “disconnect” between nutrition and agriculture that has characterised, and still is common, in many country policies. Lartey (2015) notes that today agricultural investments focus mainly on cereal production and processing as opposed to non-staples, such as fruit and vegetables, with the result that the cost of a healthy diet is high.

Climate change and the environment

Modern agriculture currently contributes about 11.6% of GHG emissions and the land use and water management related thereto are not sustainable in many parts of the world (Tubiello et al. 2015, based on FAOSTAT data). Deforestation is contributing an estimated 11% of global emissions, while causing the loss of habitat, species and biodiversity in general. Livestock contributes to nearly two thirds of agricultural GHG emissions and 78% of agricultural methane emissions.

The incidence of natural disasters has increased fivefold since the 1970s. With a fair degree of certainty, this increase can be attributed, in part, to climate change induced by human activity. Deforestation, degradation of natural coastal protection and poor infrastructure have increased the likelihood that weather shocks will turn into human disasters, especially in the least developed countries. These trends, in turn, threaten the sustainability of food systems and undermine the world’s capacity to secure adequate availability of food. These effects of climate change, as well as its adverse consequences for livelihoods, public health, food security, and water availability will have a major impact on human mobility, likely leading to a substantial rise in its scale (Houghton, Jenkins and Ephraums, 1990: 103; Edenhofer et al., 2014).

The precise impacts of climate change are still highly uncertain and are likely to vary significantly across countries and within countries. Rural populations and agricultural production tend to be more vulnerable to these risks, especially in vulnerable regions in sub-Saharan Africa, which are already challenged by severe land degradation, lack of fertile soils, limited water availability, and other biophysical limits.

Technology transition

Isolation and fragmentation are among the most constraining spatial related factors of smallholder production and productivity in developing countries. Distance from consumers, input markets, services and information requires generally high transaction costs due to lack of or poor physical infrastructure in rural areas. Fragmentation of landholdings and their dispersed location are compounding factors to diseconomies of scale and low levels of private investments in disadvantaged segments of rural economies. These factors also cause high transaction costs in moving agricultural products from farm gates to consumers.

Technological innovation can contribute to reducing such transaction costs and in bridging information gaps associated with diseconomies of scale. Digital information and communication technologies (ICT) made accessible to smallholder farmers in disadvantaged regions are a good example. Applications of digital technology have helped reduce the distance between the food production points and the consumer points and achieve greater economies of scale (World Bank, 2009).

In Ethiopia, for example, the Agricultural Transformation Agency launched an agricultural hotline, which has already logged almost 6.5 million calls. It also sends text messages and automated calls containing up-to-date agronomic information to 500 000 users. The agency is also developing the Ethiopian Soil Information System, or EthioSIS, a digital soil map analysing the country's soils down to a resolution of ten kilometres by ten kilometres (Foreign Affairs, 2015). In India, a woman's trade union developed an application sending verbal messages regarding agricultural practices and other village community information to illiterate members. Extension services using digital apps with videos of farmers providing training on good agricultural practices are now used in an increasing number of developing countries.

Such ICT innovations can contribute to the creation of economies of scale, for instance, through the promotion of farmer associations and facilitate improved information about inputs and reduced costs when purchasing collectively. By using ICT, farmers have been able to obtain better information about markets and prices. This, in turn, has helped them negotiate better prices with middlemen or to directly access urban markets. Physical distance can be reduced with the support of digital technology and the functional territory in which farmers operate can be expanded beyond the traditional local markets, thus allowing for a stronger market integration of formerly isolated producers.

Diffusion of digital ICT will require pro-active government policies in order to overcome present inequalities and gaps in the access to, and affordability of, digital services and infrastructure.

Territorial approaches in practice

A territorial approach to FSN suggests that national policies and strategies should give greater prominence to local institutions in addressing food security problems, since local actors are closer both to the needs and opportunities found in a given territory. They also suggest that food security is best addressed when considering the multiple dimensions of food security in an integral way, adapted to the geographic-specific conditions of local ecosystems.

Yet, in practice, spatial aspects often tend to be overlooked in agriculture and food policies. Likewise, local stakeholders are hardly engaged in decision-making processes. Information systems related to food security and nutrition typically lack the detail required to identify and, hence, address territorial disparities and opportunities. Instead, countries mostly

rely on sectoral and supply-side approaches when promoting food production, on the one hand, and subsidies and social protection policies to improve access to food for the poor and food safety measures to protect consumers, on the other. Moreover, such supply and demand side policies are often conducted as distinct, and not necessarily, co-ordinated policy domains.

Recently, some promising developments, including of the concept of food systems³ and a new rural paradigm (OECD, 2006) and its adaptation to developing countries (OECD, 2016), show that more emphasis is being placed on co-ordinated implementation of measures promoting holistic solutions to sustainable food consumption and production, as well as to rural development at large. The multidimensional nature of food systems has led FAO to point out that at least 6 goals and 18 targets of the 2030 Agenda for Sustainable Development relate to food security and nutrition. Achieving these goals requires enhanced intersectoral policy coherence and integrated governance systems in line with the commitment of the signatories to the 2030 Agenda to pursue policy coherence and an enabling environment for sustainable development at all levels and by all actors, and with the notion of a territorial approach.

The case studies conducted by FAO, OECD and UNCDF provide useful examples of shifts towards intersectoral, multi-actor, and multi-level co-ordination and governance mechanisms for FSN. At the same time, they identify possible discrepancies existing between the commitment towards integrated and territorial approaches to FSN and the practice of implementation.

Cross-sector co-ordination mechanisms, for instance, have taken the form of interministerial councils, intersectoral committees or commissions – in some cases – led by the prime minister or president's office. The mechanisms typically involve not only government agencies at the central and local level, but also other stakeholders from civil society and the private sector. In Cambodia, for example, the Council of Ministries for Agriculture and Rural Development (CARD) co-ordinates the work of relevant development partners and manages social protection programmes. Nevertheless, while powerful to co-ordinate FSN policies at national level, lack of financial resources and weak technical capacity has weakened the ability to promote such co-ordination at the subnational level.

Another example is Peru's Commission for Food Security in charge of the implementation of the FSN strategy 2015-21. It provides a forum for policy dialogue and involves several ministries and key stakeholders including at the subnational level, however, it lacks the political power to effectively co-ordinate different ministries and influence policy decisions. The Intersectoral Commission on FSN in Colombia has more or less the same functions as that of Peru, but implementation is hampered by a complex delivery structure, especially at the local level. While some promising examples can be found of programmes that promote agricultural productivity and entrepreneurship through local peer learning networks, the challenge is to bring such local "success stories" to scale.

While Morocco and Côte d'Ivoire do not have such intersectoral bodies, and thus the various dimensions of FSN are addressed separately by the concerned ministries, Morocco has taken many steps to "territorialise" policy making through its advanced regionalisation agenda. Consequently, local actors have obtained greater influence over FSN policies. Yet, different aspects of these policies remain sector-specific domains and, as yet, integrated approaches have not taken full effect. To date, Côte d'Ivoire's agricultural policies remain strongly rooted in a value chain approach and integrated approaches for the development of disadvantaged regions have not yet taken shape.

The way forward

The 2030 Agenda has defined the new contours for sustainable development policies. The next move is for countries to lead the process of putting in place adequate means of implementation to achieve the SDGs in accordance with their needs and potential.

Territorial approaches inherently take an integrated approach to development, as the focus is on the development of territories in all dimensions. Its application can help: i) establish public investment priorities and discipline, taking into account the economic, social, cultural and physical assets of a particular territory, as well as establishing a conducive environment for private investment; ii) promote multisectorial collaboration; iii) strengthen trust between citizens and the public administration; and iv) provide the basis for ownership, more effective decision making and greater institutional accountability at central and local levels of decision making. As argued in this chapter, these aspects are of the utmost importance in pursuing effective food security and nutrition policies.

The case studies conducted by FAO, OECD and UNCDF suggest that awareness has grown that such an approach is relevant and governments of the selected countries have made considerable efforts to put mechanisms in place to pursue intersectoral territorial approaches to FSN. Thus far, however, making these mechanisms work in practice has been difficult. Implementation of a territorial approach is a complex task that requires a fundamental shift in policy practice and institutional cultures. It entails a shift from the conventional linear, central government-led market-based policy approach of promoting production and efficiency in food value chains, to an approach requiring the involvement of government and non-government actors at various levels. These actors must consider interdependencies across different parts of food systems, and give primacy to the inclusiveness and environmental sustainability of food systems across different territories. The added complexity and perceived uncertainty about the outcomes are posing challenges to the adoption of territorial approaches in practice (Karlsen and Larrea, 2016). In addition, the lengthy consultation processes and long-term timeframe embedded in territorial approaches are posing hurdles given that political cycles tend to lead governments and development partners to take much more short-term perspectives.

The aphorism attributed to Einstein that “everything should be made as simple as possible, but not simpler”, is a good description of this dilemma. On the one hand, underestimating the spatial, multidimensional, multi-actor and multi-level nature of FSN is a recipe for ineffective targeting of interventions and investments. On the other hand, too complex decision-making processes and systems to develop solutions may become unmanageable.

Based on the findings of the case studies conducted by FAO, OECD and UNCDF, the key condition for the shift of paradigm to happen is a strong political leadership in setting the right policies and governance systems and investments able to bridge local needs and priorities with those at national, regional and global levels. The case studies led to a number of recommended directions for action (OECD, FAO and UNCDF, 2016):

- **Promoting a multisectoral approach to rural development.** Agriculture productivity growth is not sufficient by itself to improve food security and nutrition. Progress in reducing hunger and improving food security has been fastest where dynamic economic diversification processes emerged providing better income and employment opportunities for a broad range of rural workers.

- **Developing integrated information and decision support systems for spatial analysis of food systems and territorial development.** To capture both the spatial and the multidimensional aspects of food insecurity and food systems, information systems need to allow for adequate disaggregation of FSN indicators to identify spatial inequalities. This will help tailor policy responses to local needs and potential, from remote rural areas through to overcrowded urban slums.
- **Increasing the effectiveness of multi-level governance and inclusiveness operational mechanisms.** Intended as a situation where “experts from several tiers of government share the task of making regulations and forming policy, usually in conjunction with relevant interest groups”, multi-level governance has vertical (multiple territorial levels) and horizontal dimensions (intersectoral and inter-actor at the same level) (Hague and Harrop, 2007: 282). In all the countries studied, governments have engaged, to varying degrees, in decentralisation reforms (vertical dimension). In addition, interministerial and intersectoral committees have been put in place to better co-ordinate food security actions (horizontal dimension). Results have been mixed in practice, however. In most cases, food security interventions retain a strong sectoral focus. While much effort has gone into reforming governmental structures, little progress has been made in engaging non-government actors (private sector, farmer organisations, and other civil society organisations).
- **Promoting and building on innovation, including local innovation processes.** A lot remains to be done to allow marginalised areas to reap the benefits of technological advances, including through digital ICT. Studies have shown that technology adoption among poor farmers tends to be slow (FAO, 2014a), pointing to the need for adapting technologies and innovations to local conditions and incorporating local knowledge. Rural development policies should combine these types of “soft innovation” with more traditional forms of “hard innovation” (i.e. infrastructure, such as telecommunications links, transport systems, and electricity).
- **Linking the social agenda with the growth agenda.** Social policies, including social protection programmes, too often remain a domain of mere safety nets disconnected from productive and employment policies. The Transfer Project co-ordinated by FAO in 13 African countries, for example, shows that cash transfers have a positive impact on human capital, including better dietary diversity, education and health care. Cash transfers not only help smooth consumption, but also provide a stimulus to households to invest in agricultural and other assets and to local economies through income multiplier effects (FAO, 2015; FAO, 2014b). Territorial approaches can help integrate social and production-oriented policies building on such locally observed realities.
- **Improving environmental preservation and natural resource management.** Ensuring food security in the future cannot be disjointed from the commitment of all countries to contribute to the reduction of GHG emissions and conform to COP21 commitments. How countries and the international community address climate change today will determine how well future generations will be fed and whether food security will be a reality for everyone in the future. Space-sensitive interventions to be taken into account to make food systems more sustainable and environmentally friendly in the short and longer term include: i) the development of knowledge and information on the impact of climate change on agriculture, fisheries and forestry; ii) strengthening capacities in the management of scarce resources through, for instance, agricultural diversification

towards drought resistant crops; iii) agricultural climate-smart practices and agro-forestry; iv) reduction of emissions from deforestation and forest degradation; v) strengthening of research and development (R&D) on the diversity of genetic resources, with a focus on drought resistant crops and varieties; vi) reduction of food loss and waste; and vii) assessment of the environmental footprint of food systems along the whole value chain.

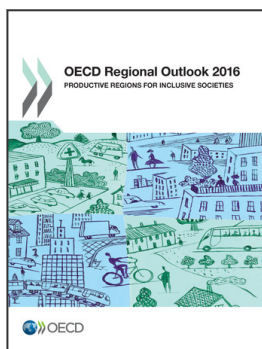
Notes

1. Food systems encompass the entire range of activities involved in the production, processing, marketing, retail, consumption, and disposal of goods that originate from agriculture, including food and non-food products, livestock, pastoralism, fisheries including aquaculture, forestry, and the inputs and outputs generated at each of these steps. Food systems also encompass a wide range of stakeholders, people and institutions, as well as the socio-political, economic, technological and natural environment in which these activities take place.
2. The Committee on World Food Security (CFS) and the FAO define food security as a situation that “exists when all people at all times have physical, social and economic access to food, which is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life” (CFS, 2012).
3. As defined by the High Level Panel of Experts on Food Security and Nutrition (HLPE) “a sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised” (HLPE, 2014).

Bibliography

- Alexandratos, N. and J. Bruinsma (2012), “World Agriculture Towards 2030/2050: The 2012 Revision”, *FAO ESA Working Paper*, No. 12-03, June 2012, Rome, <http://www.fao.org/docrep/016/ap106e/ap106e.pdf>.
- Carolan, M. (2011), *The Real Cost of Cheap Food*, Earthscan, Abingdon, Oxon.
- CFS (2012), “Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)”, in *Report of the 38th (Special) Session of the Committee on World Food Security*, May, Rome, www.fao.org/docrep/meeting/025/md958e.pdf.
- Cistulli, V. et al. (2014), “Addressing food security and nutrition by means of a territorial approach”, *Food Security*, Vol. 6/6, pp. 879-894, Springer Netherlands, <http://dx.doi.org/10.1007/s12571-014-0395-8>.
- Edenhofer, O. et al. (eds.) (2014), *Climate Change 2014: Mitigation of Climate Change*, Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, New York.
- FAO (2015), *The State of Food and Agriculture 2015: Social protection – Breaking the cycle of rural poverty*, Food and Agriculture Organization of the United Nations, Rome, www.fao.org/3/a-i4910e.pdf.
- FAO (2014a), *The State of Food and Agriculture 2014: Innovation in family farming*, Food and Agriculture Organization of the United Nations, Rome, <http://www.fao.org/3/a-i4040e.pdf>.
- FAO (2014b), “The economic impacts of cash transfer programmes in sub-Saharan Africa”, Policy Brief, <http://www.fao.org/3/a-i4194e.pdf>.
- Foreign Affairs (2015), “African Farmers in The Digital Age: Overcoming isolation, speeding up change, and taking success to scale”, *Foreign Affairs*, Special Issue curated by K. Annan et al., https://files.foreignaffairs.com/pdf/sponsored-anthology/2016/african_farmers_in_the_digital_age_final.pdf.
- Godfray, H. et al (2010), “The future of the global food system”, *Philosophical Transactions of the Royal Society*, Vol. 365/1 554, pp. 2 769-2 777, <http://dx.doi.org/10.1098/rstb.2010.0181>.
- Hague, R. and M. Harrop (2007), *Comparative Government and Politics: An Introduction*, Palgrave/Macmillan, London.

- Higgins K., K. Bird and D. Harris (2010), "Policy Responses to the Spatial Dimensions of Poverty", Working Paper, Overseas Development Institute and the Chronic Poverty Research Centre, London/Manchester, www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/5518.pdf.
- HLPE (2014), *Food Losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*, Rome, www.fao.org/3/a-i3901e.pdf.
- Houghton, J. T., G. J. Jenkins and J. J. Ephraums (eds.) (1990), *Climate Change: The IPCC Assessment* Cambridge University Press, Cambridge.
- Karlsen L. and M. Larrea (2016), *Territorial Development and Action Research: Innovation Through Dialogue*, Routledge, Abingdon, Oxon.
- Lartey, A. (2015), "The Promise of a Healthy Future: Re-integrating Nutrition into Agricultural Production and Food Chains", *Foreign Affairs, Special Issue: Overcoming isolation, speeding up change, and taking success to scale* curated by K. Annan et al., https://files.foreignaffairs.com/pdf/sponsored-anthology/2016/african_farmers_in_the_digital_age_final.pdf.
- OECD (2016), *The New Paradigm for Rural Development for the 21st Century: A Toolkit for Developing Countries*, Development Centre Studies, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264252271-en>.
- OECD (2006), *The New Rural Paradigm: Policies and Governance*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264023918-en>.
- OECD (2002), *Redefining Territories: The Functional Regions*, OECD Publishing, Paris.
- OECD, FAO and UNCDF (2016), *Adopting a Territorial Approach to Food Security and Nutrition Policy*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264257108-9-en>.
- Pingali, P. (2007), "Westernization of Asian diets and the transformation of food systems: implications for research and policy", *Food Policy*, Vol. 32/3, pp.281-298, <http://dx.doi.org/10.1016/j.foodpol.2006.08.001>.
- Stage J., J. Stage, and G. McGranahan (2010), "Is urbanization contributing to higher food prices?", *Environment and Urbanization*, Vol. 22/1, pp. 199-215, <http://dx.doi.org/10.1177/0956247809359644>.
- Stocker, T. F. et al. (eds.) (2013), *Fifth Assessment Report: Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge.
- Tubiello, F. N. et al. (2015), "The Contribution of Agriculture, Forestry and other Land Use activities to Global Warming, 1990-2012", *Global Change Biology*, Vol.21/7, pp. 2 655-2 660, <http://dx.doi.org/10.1111/gcb.12865>.
- UN-DESA (2015), "World Population Prospects: The 2015 Revision", website, <http://esa.un.org/unpd/wpp/> (accessed 15 May 2016).
- UN (2015) "Transforming Our World: The 2030 Agenda for Sustainable Development", website, <https://sustainabledevelopment.un.org/sdgs> (accessed 15 May 2016).
- Ver Ploeg, M. (2009), *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences – Report to Congress*, U.S. Department of Agriculture, Washington DC, http://ers.usda.gov/media/242675/ap036_1_.pdf.
- World Bank (2009), *World Development Report 2009: Reshaping Economic Geography*, The World Bank.



From:
OECD Regional Outlook 2016
Productive Regions for Inclusive Societies

Access the complete publication at:
<https://doi.org/10.1787/9789264260245-en>

Please cite this chapter as:

Cistulli, Vito, Mia Heikkilä and Rob Vos (2016), "Global dimensions of malnutrition: Territorial perspectives on food security and nutrition policies", in OECD, *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264260245-13-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.