

Abstract – The article analyzes the evolution of food security in West Africa during the last 25 years. The Millennium Development Goal One aims at halving the proportion of people who suffer from hunger by 2015. Although Sub-Saharan Africa remains far from reaching the hunger target, West Africa presents a better situation, with eight countries that will meet the target. The article focuses on international food trade, analyzing the recent growth of food imports in West Africa and the impact of this growth on food security. The last part of the article is focused on the case of Benin: the country achieved an important reduction of undernourishment since 1990. The analysis aims to highlight the role of short food supply chains in rural development and therefore in food security strategies. The department of Atacora, in Northern Benin, is used as a case study to show the recent evolution of local food networks in a region traditionally characterized by an export-oriented agriculture. In conclusion the article highlights the link between food security, international trade and local food networks, showing the potential of the “food sovereignty” paradigm in understanding the geographies of food in West Africa.

Introduction

Although Sub-Saharan Africa remains far from reaching the first Millennium Development Goal (MDG 1C) of halving the proportion of people who suffer from hunger by 2015, West Africa¹ presents a better situation, with eight countries that have met the target (Benin, Gambia, Ghana, Mali, Mauritania, Niger, Nigeria and Togo) and an overall reduction from 24% in 1990 to nearly 10% in 2015². The number of undernourished people in the sub-region remains steady at around 30 million, but the general performance can be considered very good, especially if compared to the other sub-regions of Sub-Saharan Africa where the situation has registered minimal improvements (East and South Africa) or even deterioration (Central Africa).

The first part of the article focuses on this anomaly, presenting the different aspects of food security and their evolution during the period 1990-2015. We will analyze national and sub-regional strategies to fight against food insecurity, focusing on international food trade: per capita food imports in West Africa have been growing steadily during

¹ We use the FAO definition of West Africa that includes Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

² All data are from the FAO database except when explicitly stated.

the last 15 years as a consequence of neo-liberal policies that followed the implementation of the Structural Adjustment Programmes of the 80s and 90s. This policy of food imports had a considerable impact on food security, especially during the food price crisis in 2007-08, and therefore was recently questioned in favor of a more focused approach to “food sovereignty”. The concept of “food sovereignty” was launched in 1996 by the international peasant movement *La via Campesina* and describes the “right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (La via Campesina, 2007).

In the second part of the article we present the case of Benin, a country that achieved impressive results in reducing the percentage of undernourished people. Other statistics, such as the prevalence of underweight children or the household survey on food security conducted by the World Food Programme (PAM, 2014), are less optimistic. In particular, the Atacora Department³, in the North-Western part of the country, is vulnerable to food insecurity and it is used as a case study to show the recent evolution of short food supply chains and their role in food security strategies. The development of local food networks represents local farmer’s response to the failure of conventional strategies based on export-oriented agriculture (mainly cashew nuts and cotton).

The Evolution of Undernourishment in West Africa A considerable debate has accompanied the statement and the implementation of MDGs during the last 15 years. The analysis of this debate is not part of this article, but we highlight the fact that the MDGs have been a powerful instrument for redefining development policies and concepts (Fukuda-Parr and Orr, 2014) and therefore they constitute an unavoidable point of reference for any analysis in this sector. Two indicators were set to measure the progress in achieving the MDG 1C target: the proportion of the population below the minimum level of dietary energy consumption and the prevalence of underweight children under five years of age.

The FAO produces annual estimates on the proportion of undernourished people in its report “State of Food Insecurity in the World”. These estimates are based on three

³ Benin is divided into 12 departments (*départements*): Alibori, Atacora, Atlantique, Borgou, Collines, Donga, Kouffo, Littoral, Mono, Oueme, Plateau, Zou.

parameters collected on a national scale: the availability of food, the access to food and the calories required for an average person (FAO, 2015). The indicator concerning child malnutrition is not exclusively linked to food deprivation, being influenced by other factors such as disease or environmental conditions, but it is crucial as a complement to the energy consumption indicator because it introduces more qualitative elements.

Sub-Saharan Africa (SSA) failed to achieve both MDG 1C targets: the rate of undernourishment declined from 33 to 23% between 1990-92 and 2014-16, with an increase in absolute numbers of 40 million, and the proportion of children underweight fell from 29 to 21%, far from the target of 14.5%.

On a sub-regional scale, West Africa obtained the best results, with a 60% reduction in undernourishment (from 24 to 10%), but the proportion of underweight children only declined by 20% (from 26 to 20%). According to the FAO, this apparent discrepancy could be a consequence of the fact that the fall in undernourishment was due to an important increase in the availability of staple foods, especially in big countries such as Nigeria and Ghana, with little or no improvement in the dietary imbalances of the sub-region (SOFI, 2015).

A country-level analysis shows a varied situation. In three countries the state of undernourishment is worse now than in 1990: two of them have been affected by significant conflicts (Cote d'Ivoire and Liberia), while the last case (Senegal) seems to be more associated with a mismanagement in food policies and with the food price shock in 2007-08.

The most positive cases concern one Sahelian (Mali) and two coastal (Ghana and Benin) countries. Statistically speaking, Ghana is the best example of hunger reduction in SSA: in 1990 the percentage of undernourished people was around 47%, the highest rate in West Africa at the time, now the same rate is below 5% and the percentage of underweight children declined from 25% in 1993 to 13% in 2011, close to the target. In the last 20 years, Ghana has experienced significant economic growth that doubled the GDP per capita, from US\$ 1900 in 1990 to US\$ 3900 in 2013. Although income inequality has been growing during the same period and the Gini coefficient has increased from 38 to 43, extreme poverty has declined from 51% to 29% with a significant impact on food access (SOFI, 2015, p. 29).

Statistics on undernourishment offer an overall picture of food security, but to understand the characteristics of food security in West Africa, we have to analyze all aspects of the subject: availability, access, utilization and stability (FAO, 1996).

Regarding food availability, West Africa has registered significant improvements: considering the Average Dietary Energy Supply Adequacy (ADESA), which expresses the dietary energy supply as a percentage of the average dietary energy requirement, we observe that the value has grown more rapidly in the sub-region than in the rest of the continent (+18% compared to +11% in SSA, for the period 1990-2015). Ghana is, by far, the country where the dietary energy supply has grown fastest (+59%), but other countries present significant improvements as well, namely Mali (+23%), Niger (+23%) and Togo (+29%). Among the West African countries, only Senegal registered a decline in this sector, from 100 to 99%.

Food access, meaning the condition of having sufficient resources to obtain appropriate food, is more diversified. If we consider the GDP per capita (PPP), one of the indicators used by the FAO to measure food access, we can see that the increase in West Africa is double compared to SSA (+62% with +31%, in the period 1990-2013), but with significant differences among the countries: three countries – Cabo Verde, Burkina Faso and Ghana – doubled or more than doubled their GDP per capita, while four countries – Cote d'Ivoire, Guinea Bissau, Niger and Togo – have seen their GDP decline.

Concerning the nutritional aspect, we observe a general reduction in the share of dietary energy supply derived from cereals, roots and tubers, which indicates an improvement in quality of diet. Yet this reduction is minimal for SSA (-1% in the period 1990-2010) and just a little more significant for Western Africa (-2%).

In summary, the trend in food security for the sub-region is certainly positive, but with some negative exceptions, mostly associated with difficult political situations, which have to be highlighted. This positive trend seems to be deeply connected to the availability of a limited group of foods, especially staple crops, while in other aspects of food insecurity, especially concerning quality of diet, the progress is less definite.

A specific subject of analysis concerns the increase in food availability. According to the FAO, food availability is the sum of production, change in stock and balance of trade. Considering that per capita cereal production has remained fairly steady during the

period 1990-2012 (around 160 kg/pers/year), it is important to have a closer look at the trade subject.

Undernourishment, food trade and local food networks

Statistical data about MDG 1C offer a general picture of undernourishment in West Africa, but overlook important information about the characteristics of food security. First, the very structure of the MDGs, based on a national-scale approach, leads to a “tyranny of the average” (Vandemoortele, 2011) that says nothing about the social and spatial inequalities within national boundaries, hiding the situation of the poorest sector of the population (Brikci and Holder, 2011). Second, the sectoral fragmentation of the MDGs (Waage et al., 2010) doesn’t take into account the complex interaction between food security and the evolution of food and agricultural systems. Third, statistical data describe the present situation, without considering the quality of food security and its long-term sustainability. Nevertheless, the issue over the control of food production and consumption is crucial to understanding real improvements in the realization of the right to food (De Schutter, 2014).

The focus on vulnerable small-scale farmers, the systemic perspective on food and agriculture and the concern for the control over food supply are central issues in this study and highlight the different food trade perspectives between the food sovereignty paradigm and the trade-oriented food security approach (Patel, 2009; Lee, 2013; Jarosz, 2014). Authors and institutions that support the food security perspective tend to see a positive link between trade openness and food security. Brooks and Matthews (2015), in their analysis of the “Trade Dimensions of Food Security”, recognize the potentially negative impact of trade openness on the most vulnerable sectors of the population and the risk of high food bills, especially during periods of extreme international price movements, but they argue that with good flanking policies, the benefits of international trade are bigger than the risks.

On the contrary, the food sovereignty paradigm highlights the risks of international trade and emphasizes the role of local markets (Patel, 2009). Some definitions of food sovereignty highlight the role of the State in protecting local economies, others focus their attention on the agency of local communities; some stress the importance of national markets, others adopt a regional perspective, but all of them highlight the

importance of local food networks that link small farmers with local consumers (Lee, 2013). The research on the potential benefits of short food supply chains for rural development in “rich” countries is advanced (Renting, 2003), but some authors have highlighted the specific benefits of Localized Food Systems for the Global South (Muchnick, 2008).

The example of West African countries, and in particular Benin, show the complex interaction between food trade and undernourishment, the importance of local food networks and the need for specific food policies.

Food Imports in West Africa

The topic of food imports is crucial for the food security of the continent, because this sector has experienced a remarkable development in the last 30 years. In 1980 Africa’s exports in agriculture almost equaled agricultural imports, while in 2012 the deficit between imports and exports amounted to US\$ 40 billion. This food import bill has a significant impact on African economies and on food security as shown by the food price crisis in 2007-08 (Rakotoarisoa, Iafate, Paschali, 2011).

In West Africa the value of per capita food imports is lower than in the rest of the continent, but the balance of trade in the agricultural sector, that was slightly positive until 2004⁴, turned negative and in the last 10 years the deficit in the agricultural sector has grown at a fast pace, from US\$ 4 per person in 2005 to US\$ 15 in 2012. Apart from the peculiar case of the island of Cabo Verde, the higher deficits are found in Mauritania (US\$ 117), Benin (US\$ 112) and Senegal (US\$ 90).

If we consider the Cereal Import Dependency Ratio, the proportion of imported cereals on the domestic food supply of cereals, we observe that in ten countries this percentage is above 20%, above the average of SSA (19.9%). The most relevant case in this sense seems to be Nigeria, where this ratio has grown from 4.4 in 1990 up to 21.7 in 2010.

The growth of food imports is not simply an economic matter, and it is strictly connected with the last dimension of food security, the stability of the food sector, meaning the population’s exposure to sudden shocks (economic or environmental crisis) or cyclical events (seasonal variations in food availability and access). The food price crisis in 2007-08 has shown how African countries are vulnerable to price fluctuation as

⁴ Except for the years 1992, 1993 and 2001.

a consequence of their growing imports, especially with cereals such as wheat, rice and maize.

The first reason for the increase in food imports is associated with population growth: total population of West Africa almost doubled in the period 1990-2015, from 180 up to 350 million. Yet, food imports have been growing more than proportionally and the value of per capita food imports has risen from US\$ 13 in 1990 to US\$ 44 in 2012.

The second important factor refers to the urbanization process. The population in West Africa is now close to 50% urban, and several countries that are highly dependent on food imports are also the ones where the percentage of the urban population is above average (Benin, Cabo Verde, Cote d'Ivoire, Gambia, Ghana, Liberia). This link between urbanization and food imports is a consequence of the crisis in rural areas (and therefore of local agriculture) and the development of a specific urban diet, mainly based on ready-to-eat food (i.e. bread or pre-prepared food; Delisle, 1990). The recent development of supermarkets in Western Africa could be another sign of this change in food consumption that will influence the evolution of the food trade balance in the future.

Food and Agricultural Policies

A third, crucial, component that explains the evolution of food imports in Western Africa concerns the economic strategies of the countries. For instance, in Ghana, a typical exporter country, we observe a positive trend in undernourishment reduction coupled with growing food imports. The country chose a strategy of trade liberalization and it financed the food bill with export receipts and economic growth: the increase in agricultural exports followed the import growth and since 1990 the trade balance for agricultural products was negative only in 2001. The recent slowdown in economic growth and the constant depreciation of the Cedi will probably worsen this picture, showing the fragile foundations of this strategy, but in terms of MDGs Ghana remains the best example of undernourishment reduction in West Africa.

On the contrary, Senegal failed in reducing the percentage of undernourished people and the trade balance for agricultural products has been consistently negative during the last 25 years. Agricultural imports have been increasing regularly, especially since 2000, and

they were not compensated by the moderate growth in exports, so the deficit in the agricultural sector went from US\$ 230 million in 1990 to US\$ 1.2 billion in 2012.

Senegal shows how dependence on imports can affect food security and it is not by chance that Senegal was one of countries that suffered the most from the food price crisis, in 2007-08. The government proposed several strategies to reduce food imports, banning the imports of some strategic products such as poultry, onions and potatoes, and in 2004 it introduced the concept of food sovereignty into agricultural law (*Loi d'orientation agro-sylvo-pastorale, LOASP*). The most significant strategy in this direction was “Goana” (*Grand Offensive pour la Nourriture et l'Abondance*), the program launched in 2008 to increase agricultural production. Although this plan was formally founded on the paradigm of Food Sovereignty, in fact, it was mainly aimed at attracting private foreign investments into the agricultural sector (Hrabanski, 2011). The impact of these strategies is not yet visible and the proportion of undernourished people stagnated in the period 1990-2015, while the absolute number doubled from 1.9 to 3.7 million.

The last example concerns the case of Mali. The country obtained good results in undernourishment reduction, both in terms of percentage (16.7% in 1990, less than 5% in 2015) and of absolute values (1.4 million in 1990-92, 0.7 in 2008-10). Per capita food imports have remained below the average of West Africa and the trade balance in agricultural products was passive only in the period 2007-2011. As in Senegal, the government introduced the concept of food sovereignty into agricultural law (*Loi d'orientation agricole, LOA*) in 2006. However, in Malian law the paradigm of food sovereignty was stated as a point of reference for agricultural development and the very basis of food security (*LOA, 2006*).

Mali's strategy focused on increasing the production of cereals, especially rice, in order to reduce imports. The government launched a “Rice Initiative” in 2008, mainly based on the extension of irrigation schemes and on the introduction of input subsidies. Consequently, after 2007 we notice both a significant growth in cereal production and a corresponding decline in the cereal import dependency ratio (from a peak of 10.2 in 2005-07 to 4.7 in 2009-11). National food policy analysis reflects different, and sometimes opposite, food and agricultural strategies. On a regional scale, this

divergence is even more evident and leads to a contradictory process in which West African institutions alternate between protectionist and free-trade decisions.

On the free-trade side, we observe a sort of continuity with previous export-oriented strategies imposed by Structural Adjustment Programmes (SAPs) in the 80s and 90s. In 2000, for instance, following a strategy of market liberalization, the members of the West African Economic and Monetary Union (WAEMU⁵) created a customs union with a low Common External Tariff that fostered food imports and penalized local economies (Laroche-Dupraz and Postolle, 2013). At the same time we can cite the signing in 2014 of the Economic Partnership Agreement (EPA) between 16 West African countries⁶ and the EU that liberalized trade relations, exposing African farmers to competition with European products.

On the other hand, during the last ten years, West African countries have gradually developed a different strategy, more focused on enhancing regional products and markets, and in 2005 they defined quite an innovative Agricultural Policy for the Economic Community of West African States (ECOWAP⁷). Previously, the subject of food security was strictly connected with trade liberalization policies that produced cheaper imported food, but harmed local farmers, producing new forms of poverty and vulnerability to hunger. With this document the governments of West African countries reconnected food security strategies with agricultural policies. The document reintroduced the issue of regional product protection, especially regarding global price distortion generated by subsidies (cotton, for instance) and products that affect vulnerable populations (SWAC, 2007).

This discussion about regional product protection led to a revision⁸ of the Common External Tariff with the introduction of a 5th band, with a higher tariff (35%) covering specific goods that are strategic for economic development. At the same time, during the

⁵ The West African Economic and Monetary Union, better known by its French acronym, UEMOA, is the organization of countries that share the CFA franc as a currency. The members are Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

⁶ The agreement was signed by the members of the Economic Community of West African States (Benin, Burkina Faso, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo) and Mauritania.

⁷ This regional policy is part of a continental process inaugurated in 2003 with the Comprehensive Africa Agriculture Development Programme (CAADP), the program of the African Union to support the agricultural sector.

⁸ At the Heads of State Summit in October 2013, in Dakar, the Common External Tariff of the West African Economic and Monetary Union was extended to the whole Economic Community of West African States. The new CET, with the 5th band, entered into effect in 2015.

Economic Partnership Agreement negotiation, West African countries attained the right to open their markets gradually and with the exclusion of a list of products that are sensitive to liberalization.

The analysis of national and international food strategies shows a contradictory picture and indicates that there is not a direct and unequivocal link between food legislation and undernourishment reduction. On one hand, good performances in MDG1C can result from very different laws and a complete analysis should take into account the quality and stability of hunger reduction. Ghana is indicative in this sense: the excellent outcomes registered in MDG 1c are the result of an open-trade strategy that is extremely vulnerable to global economic fluctuation.

On the other hand, similar legislation can render different results, as shown by the case of Senegal and Mali. In Senegal food sovereignty rhetoric covers top-down policies where local communities are not truly involved and the focus is more about attracting foreign investors than actually supporting local food systems. Protectionist policies can be ineffective if not coupled with coherent programs that support the specific needs of local systems.

National and regional policy analysis shows that the role of national governments is ambiguous: on one hand, we observe a certain diffusion of the food sovereignty approach within national laws; on the other, national initiatives and international agreements are often inconsistent within this framework. Benin, another “success story” in terms of undernourishment statistics, can offer some useful insights in this area.

Undernourishment reduction in Benin

If we look at the statistics produced by the FAO, Benin is one of the best examples of undernourishment reduction in the continent: during the period 1990-2015, the country reduced the prevalence of undernourished people from 28.1% to 7.5% and the absolute number from 1.5 to 0.8 million, achieving the MDG target and getting close to the World Food Summit target⁹. In West Africa only Ghana and Mali have done better.

This positive result is strictly connected to improvements in food availability and the Average Dietary Energy Supply Adequacy (ADESA) grew by 25% in the period 1990-

⁹ World Food Summit target aims at halving the number of undernourished people by 2015.

2015. Food access indicators have also improved: in the same period the GDP per capita increased from US\$ 1362 to 1733, more than 25%. The nutritional dimension is the weakest component of food security in Benin: more than 70% of the dietary energy supply still comes from cereals, roots and tubers, and this percentage remained fairly constant during the last 25 years. One of the consequences of this poor diet is the high prevalence of underweight children that in 2006 was still above 20%, with a slow declining trend.

A recent study of the World Food Programme based on a household survey (PAM, 2014) presents a critical vision of food security in the country: in 23% of households food consumption is inadequate, either poor (5%) or “at the limit” (18%), with peaks of around 50% in the departments of Mono, Atacora and Couffo. The survey stresses the fact that 5% of the households eat mostly cereals and roots, with limited quantities of oil and vegetables. 18% of the households that are in a state of “borderline food consumption” consume a larger share of vegetables and introduce small quantities of animal proteins, but fruits are still absent from their diet.

Per capita cereal production increased by 34% since 1990, a percentage that is lower than in many West African countries, but sufficient to significantly reduce the Cereal Import Dependency Ratio. Improvements in root and tuber production have been even more significant: per capita production increased by 50% in the period 1990-2012, driven by the impressive growth of cassava (+75%).

In our perspective, this data is important both on a local and continental scale. In the next paragraph we present the importance of cassava products for food security on a local scale, in the Atacora department. On a continental scale, we have to highlight the role of starchy roots in substituting food imports, especially cereals:

“roots (such as cassava and taro) (...) have played an important role in Africa’s food security and may have attenuated food imports. They are a source of nutrients and especially carbohydrates, and their relatively high level of consumption share indicates they are complements to and sometimes substitutes for importable commodities like cereals (wheat or rice).” (Rakotoarisoa et al., 2001, p. 21)

However, if we look at the value of food imports, the picture is more complex: after a long period of steadiness, the value of per capita food imports increased sharply in the last few years, from an average of US\$ 27 in the period 1990-2010, to an average of US\$ 120 in 2010-11. This evolution is mainly due to the rapid growth of chicken and

turkey meat imports¹⁰ that now account for 30% of total food imports. The value of per capita imports of chicken and turkey meat was US\$ 1.2 in 1990, 6.3 in 2007 and 35.6 in 2012. The issue of frozen chicken imports, especially from Europe, is one of the most sensitive for African countries and some governments, such as Senegal, have introduced restrictions to limit these kinds of imports.

This dependence on food imports is a consequence of national and international policies that have been oriented toward liberalization in order to boost exports and have cheaper food in urban markets, without taking into account the consequences in terms of vulnerability to price fluctuation and the impact on local farmers. Like many African countries, Benin's economy is based on the export of a limited group of crops: palm oil, cotton and cashew nuts represent more than 90% of agricultural exports in terms of value. Cotton is particularly indicative of this system's vulnerability because the recent decline in cotton price on the international market directly affected local farmers and production declined from a peak of 270,000 tonnes in 2002 to 160,000 in 2013, with the lowest amount in 2010 (85,000 tonnes).

A new Strategic Plan for the Agricultural Sector was developed in 2011 (Plan Stratégique de Relance du Secteur Agricole, PSRSA) where the subject of food imports is explicitly addressed, highlighting the need for a change in trade policies:

Les importations de produits alimentaires ont été facilitées par l'Etat, souvent pour répondre aux besoins des populations urbaines qui sont le plus souvent au devant de la scène politique et font pression pour accéder aux produits de consommation à bas prix. Ces importations représentent une hémorragie de devises et font souvent concurrence aux productions locales. (...) A cet égard, une politique de couverture alimentaire adéquate pour pallier aux risques liés à l'approvisionnement du marché national peut justifier la mise en place d'un niveau de tarif minimum et de mesures spéciales pour protéger les productions vivrières¹¹. (MAEP, 2011, p. 35)

The plan also makes reference to the paradigm of food sovereignty, but on the whole it remains more of a theoretical vision than a real strategy. The government continues focusing on the traditional extraverted agricultural model without implementing any

¹⁰ Partially re-exported.

¹¹ "Food imports were facilitated by the state, often to meet the needs of urban populations that usually occupy the front of the political scene and lobby for low-cost food. These imports represent a currency bleeding and often compete with local production. (...) In this respect, a food policy that reduces the risks related to the supply of the domestic market can justify the establishment of a minimum duty and special measures to protect food production" (translated by the author).

relevant plan for local agriculture and short food supply chains. Still, something is changing on a local scale with the recent development of new economic networks.

Local Food Networks in the Atacora Department

The Atacora department covers the North-Western region of the country that borders Togo and Burkina Faso and it is located in the Sudanese zone, characterized by a semi-arid climate and a vegetation of wooded savannah. The department's landscape is characterized by the presence of the Atacora mountain chain which is also the origin of several rivers and streams that cross the region.

Atacora is one of the poorest departments of the country, especially considering non-monetary poverty, that affects 58.2% of the population (INSAE, 2013). The WFP Survey indicates that 48% of households are in a state of "poor food consumption" (13%) or "borderline food consumption" (35%), the worst situation after the Mono Department (49%). The state of food diversification is particularly severe, with 21% of the households characterized by a poorly diversified diet, compared to a national average of 6% (PAM, 2014). If we consider the percentage of underweight children, the Atacora Department (22.5%) is better than several Departments (Alibori, Atlantique, Collines, Mono, Plateau, Zou), but still higher than the national average (21.3%) (INSAE, 2012).

Agriculture has traditionally been divided between cash crops (cashew and cotton) and staple crops (mainly sorghum, millet, fonio, maize, yam and cassava). The Atacora Department is a good example of the negative impacts on the most vulnerable sectors of the population of an export-oriented agricultural approach. At the beginning of this century, West Africa, and Benin specifically, was a major area for cotton production, a typical activity of smallholder farmers. Therefore, the subsequent decline of cotton prices on the world market, fostered by Western agricultural subsidies, specifically affected the small farmers of the Atacora Department, a core region in this sector.

Due to the crisis, many farmers have abandoned this activity, and as a result cotton production in Benin has declined from 267.000 tons in 2002 to 149.000 in 2012. At the same time smallholder farmers have converted their activities to local-based products such as cassava, which has experienced a steady growth from 2.5 million tons in 2002 to 3.3 million tons in 2012.

Cassava is used in many ways but the most relevant product is undoubtedly the gari, a dry gritty product that was not so typical of the Atacora Department, but whose consumption has been growing fast in recent years. Gari is particularly appreciated for its low cost and ease of transport to the workplace, where it is consumed by soaking it in water mixed with sugar and peanuts. According to the WFP survey, today gari provides up to 16% of total caloric intake in Benin (PAM, 2014).

This remarkable increase was partially supported by the Roots and Tubers Development Programme (RTDP) a national-scale program financed by the International Fund for Agricultural Development (IFAD, US\$ 13 million), the West African Development Bank (US\$ 4 million) and the government of Benin (US\$ 2 million). The program that was developed in the period 2001-08 contributed to the diffusion of cassava production and trained local groups, especially women groups, in gari production. The program's overall impact was limited by the lack of support after the training period¹², with limited benefits for the poorest part of the population (IFAD, 2010). However, independently or with the aid of international NGOs¹³, many groups have developed gari production, achieving remarkable results both in terms of food security and economic revenues.

Originally, gari was used for family consumption, but recently this form of trade has become an important source of revenue for women, especially those who are part of groups that can produce large quantities and reach more distant markets. In fact, gari's trade networks now exceed local markets and can sometimes reach an international scale: the product is regularly sold in several West African countries, especially in the sub-arid region where cassava production is more difficult (Mali, Burkina Faso and Niger).

¹² The main problem was determined by the lack of instruments, especially graters and presses that are essential for the processing of cassava.

¹³ The present research is linked to one of these projects, developed by the NGO Mani Tese, with the aim of supporting women's cooperatives and enhancing the production and commercialization of gari in 3 communes of the Atacora Department (Toukountouna, Kouandé, Boukoumbé). The research started in 2009 as a preliminary assessment for this project: 39 groups were interviewed in order to understand the characteristics and the potential benefits of this local food system. The research followed the evolution of 21 of these groups during the following years through different projects of the same NGO. In 2015 a new project was started, specifically directed towards supporting 34 groups in the communes of Natitingou (7), Toukountouna (19) and Kouandé (8) in order to strengthen their trade networks. A new set of interviews was conducted in 11 markets of the Department in order to understand the characteristics of local trade networks.

Our field research in three communes¹⁴ of the Atacora Departments (Natitingou, Toukountouna, Kouandé) has confirmed the extent and complexity of these networks. In these communes we have found more than thirty marketplaces, usually organized with a frequency of four days that follows the traditional rule (Aime, 2002). We have identified four groups of markets, according to the extension of their commercial networks and their role in the supply chain (see figure 1).

[Figure 1 near here]

The first group deals with small marketplaces that are present in many villages and that are used for selling and purchasing everyday products, usually in small quantities. They are usually small, less than 1 ha, and their commercial network only reaches nearby villages. At the Kouba market, for instance, the commercial network covers a range of approximately 5 km.

On a larger scale, we have identified communal markets, such as Guilmaro or Yarikou, whose trade networks cover wider distances, up to 20 km. They are bigger and more organized, with concrete structures for commercial activity. These markets are usually part of a trading system in which women come from other villages to buy cheaper goods (such as gari, for example) and re-sell them at more expensive markets.

The third level concerns markets with inter-communal trade networks, such as Kouandé or Toukountouna. These markets play a dual role: on one hand, they serve the population of small towns that are also administrative centers, on the other, the sellers of these markets are usually connected with larger wholesale markets. For instance, big quantities of gari are transported in 100 kg sacks, from Kouandé to the markets of Chabi-Kouma and Natitingou. This wholesale market is structured around a system of warehouses that are usually absent in smaller markets.

The last category concerns the biggest markets, namely Natitingou, Chabi-Kouma and Tanguiéta, that extend their networks beyond the limit of the department. Chabi-Kouma is important as a wholesale market with relevant international connections to Togo: women from Togo usually cross the border to buy the gari in this market, which is cheaper than Natitingou. Gari from Benin is considered to be of a higher quality in the

¹⁴ The analysis also concerned the market of Tanguiéta, in the commune of the same name, which has significant links with the villages of the three communes.

sub-region, but it is usually more expensive than the product coming from Ghana or Nigeria (Assogba, Hounkpe and Hounsounou, 2008).

The market of Tanguiéta also has international connections, especially with Burkina Faso, where the gari can be sold at a higher price at the Fada N'gourma market, 150 km from Tanguiéta. Natitingou is different because the importance of the market is due to the larger size of the town in terms of population, even if its international connections are weaker than those of Chabi-Kouma and Tanguiéta.

These examples show the importance of gari for local economies and the complexity of these trade networks: gari is becoming a crucial product both for nutrition and for the economic development of rural areas. First, it is a strategic product to assure food security, especially during the hungry gap, when food supplies run low and prices of staple foods are high, because it can be stored for a long period of time (more than a year, if the quality is good). Secondly, being a local product, its price, although susceptible to seasonal variations, does not suffer from external shocks as is the case with imported cereals. Third and finally, gari is produced in other West African countries such as Nigeria, Togo and Ghana, but it does not suffer from global competition like other crops such as rice, cotton or tomatoes.

In conclusion, we have to highlight two critical points that will influence the development of this sector in the future. The first is the issue of prices: after a period of growing prices, fueled by increasing demand, recently we observe a partial saturation of markets that is driving prices downward, with negative consequences for local farmers. In the case study area, this problem specifically affects the regions of Toukountouna and Kouandé, while the Southern part of the Department still has room for growth in gari production. Therefore, there is a strong need to diversify local production in order to reduce the risk of saturation and new programs and projects should develop other products and supply chains. Furthermore, this diversification would be beneficial for the improvement of the dietary quality of rural populations.

The second element of weakness concerns transportation. The four communes are serviced by one paved road that crosses the Department in a North-South direction and is part of the route connecting the port of Cotonou with Ouagadougou, the capital of Burkina Faso. All the biggest markets are placed in proximity to this road and in fact, the other markets suffer from the isolation and bad conditions of the unpaved roads. The

village of Maka, for instance, is located 30 km away from the market of Toukountouna, but the farmers are forced to drive for 90 km to reach the same market because a 1 km section of the road is impassable. This structural deficiency affects both producers and consumers because it keeps the price excessively high without benefiting the local farmers. Infrastructure is a chronic problem for Sub-Saharan Africa, but this area seems to suffer particularly from the lack of an operational network of roads. The development of local economies needs investments in this sector and food sovereignty is possible only with a significant improvement in the system of roads that acts as the foundation of local food networks.

Conclusion

The fact that West Africa will achieve the MDG 1C of halving the rate of undernourishment is a positive sign, especially if we compare this area with the rest of Sub-Saharan Africa where many countries are still far from the target. However, the situation in the sub-region is diversified and aside from outstanding performers like Ghana, we observe many situations of minimal progress and even deterioration (Cote d'Ivoire, Liberia, Senegal).

Another cautionary note concerns the fact that improvements are the result of drastically different strategies: Ghana's progress is largely due to economic growth based on exports, while Mali's policy focuses more on local agriculture. The two strategies diverge in terms of vulnerability to external factors: while Ghana remains highly exposed to the fluctuation of prices and global economic trends, Mali's food and agricultural policy seems to assure a higher degree of food sovereignty. In this sense, the issue of food imports is crucial and the recent rising trends represent a serious threat for the future of food security in the sub-region, especially when coupled with a declining demand for African commodities by emerging countries.

Benin is quite indicative in this regard: the country displays excellent statistics in hunger reduction but its dependence on food imports is growing rapidly and if we take into account qualitative and local-based research, some problematic factors emerge. In this sense, it is important to highlight the distance between statistical data and reality: MDGs have been a strategic instrument to mobilize people and governments, but official data always paints a partial picture of the real situation, especially in Africa

where the statistical system is far from perfect. At the same time, field research shows that something is changing on a local scale and this evolution is only partially visible from statistical data. People in the Atacora Department are giving up cotton production and are shifting towards local-based products, such as gari, that seem to assure profits for farmers and food security for consumers.

This is in-line with food sovereignty's concern for greater control over food production systems by small farmers and its focus on the existing link between the power of small farmers and the development of local food networks (Windfuhr and Jonsén, 2005; De Schutter, 2014).

Many studies have highlighted local food networks' potential to improve local economies, with gari for example (Fournier, 2005), but national and international policies are needed to support this evolution. The government of Benin has inserted some references to food sovereignty in the Plan for the Agricultural Sector, but it has not produced an effective initiative in support of local agriculture. Furthermore, the development of local food networks seems to be more of a local initiative than the result of coherent national policies.

The evolution of these local food systems is more closely linked to the presence of local or international NGOs than to the direct or indirect action of the State. The national government's weakness is evident by the lack of infrastructure and basic services that heavily hinder the development of local economies. Significant investments to infrastructure have been made during the last ten years in Africa, but they have usually come from foreign investments in exchange for the rights to exploit natural resources. It is unlikely that this will happen in the Atacora Department where no relevant natural resources are present, so this sector would need specific and locally oriented initiatives by the State, such as rural road restoration and improved access to water. In these sectors the absence of effective action on the part of the Beninese government is evident and it shows a sense of tension between local and national initiatives.

The complex interaction between local communities and national governments is a controversial issue in the food sovereignty debate: while the initial definitions of the concept were more focused on national sovereignty¹⁵, further analysis has emphasized

¹⁵ "Food sovereignty is the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity." (La Via Campesina, 1996).

the role of local communities, sometimes in opposition to national policies (Jarosz, 2014).

Concerning international trade, the context of West Africa is developing in a contradictory way: on one hand we observe some form of control over imports, on the other, policies of liberalization that risk penalizing local farmers seem to be dominant, as demonstrated by the recent signing of the Economic Partnership Agreement with the EU¹⁶.

In conclusion, a real reduction in undernourishment – and even more so the project of “ending hunger” that is stated in the Sustainable Development Goals – needs a systemic vision more connected with the development of local economies. The sectoral approach of the MDGs and the SDGs risks being an obstacle in this sense, fostering reductionist visions of the problem and short-term strategies. On the contrary, a systemic approach to hunger leads to intersectoral policies that combine international actions and small-scale initiatives to strengthen nascent local food systems.

Old and new goals can represent a useful framework for the mobilization of governments and civil society, but they cannot replace the political decisions that will influence the development of local food systems and thereby the food security and food sovereignty of West African people.

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¹⁶ It is important to consider that the implementation of the EPAs will take several years, maybe decades, and in the meanwhile there is room for some form of protection, especially for sensitive products (Laroche-Dupraz and Postolle, 2013).

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Caption:

Figure 1 – Markets in the field research area.