Inter-réseaux Développement rural

FOOD SOVEREIGNTY BRIEF

No. 18, January 2016

What Is the Secret of High-Performing West African Agricultural Value Chains?

It is customary to decry the poor performance of agricultural production in West Africa. It is readily admitted that the Economic Community of West African States (ECOWAS) is the region with the highest production growth in Africa. But yields are not up to scratch. The growth in production is said to be due mainly to an increase in the amount of land under cultivation, and linked to population growth rather than increased productivity. As a reminder, the ECOWAS population has increased by nearly 50% since 2000, going from nearly 230 to 345 million people. Yet, despite this general observation, the production of certain products has doubled in ten years—something we cannot account for by only the arrival of new farmers in the production sector or the expansion of cultivated land. Indeed, political and economic factors, technological advances and the international context combine together to explain the agricultural performances that are sometimes surprising for certain products and certain zones in the region. Ten years after the West African regional agricultural policy (ECOWAP) was adopted, this brief looks at the booms in four of these value chains and seeks to identify the main reasons for them.

1. A Textbook Case: The Cassava Boom, Notably in Nigeria and Ghana

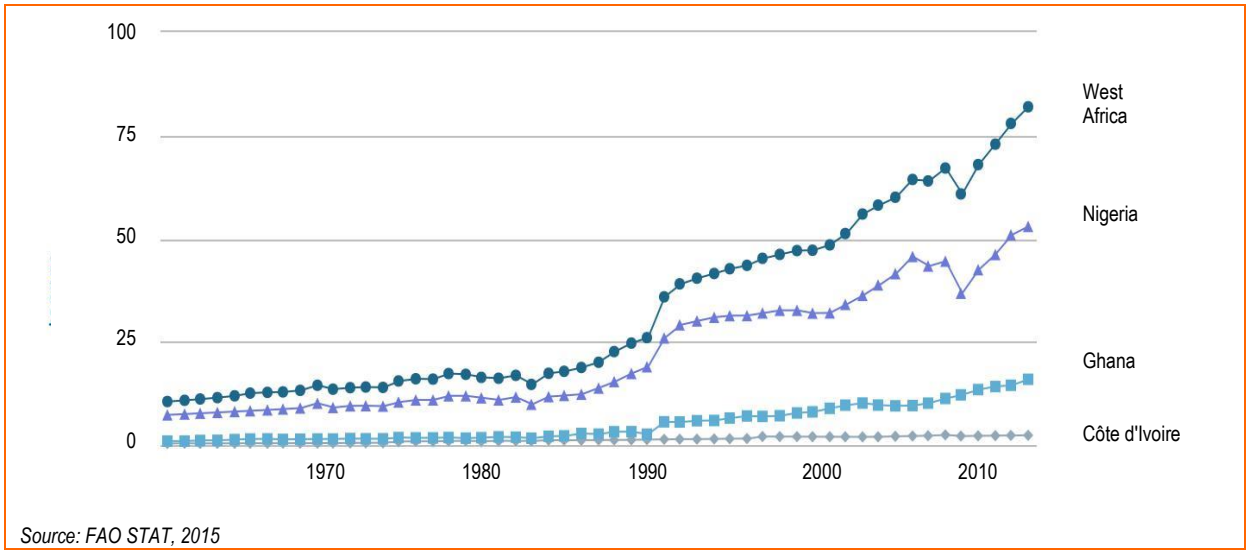
A Food and Cash Crop in One

Cassava is widely consumed in the ECOWAS region, traditionally in coastal countries and more recently in Sahelian countries because of the dietary diversification within the middle class and the regionalisation of consumption patterns. A large share is self-consumed, but cassava has progressively become a cash crop due to the sharp rise in urban demand for cassava products such as *gari* (semolina). Indeed, approximately 70% of cassava production is processed, mainly by micro-industry (dominated by women), into *gari*, *attiéké* (a variety of couscous) and flour, and to a lesser extent industrial processing (starch, syrups, flour, animal feed, etc.). Its main disadvantages are its low protein content (1% compared to 10% on average for cereals) and conservation difficulties if it is not processed rapidly after harvest (high water content in the roots).

The Production Boom in Nigeria and Ghana

The growth in cassava production in West Africa has been spectacular. This product has had two main 'booms': one at the start of the 1990s and the other at the start of the 2000s. Since 2005, growth has been considerable. The two main producers are Nigeria, the world's largest cassava producer by far, and Ghana. Ghana sets itself apart with its surprising performances, with average yields increasing sharply from 2006 to today (from 12 to 18 tonnes/ha). Following behind are Côte d'Ivoire and Benin, traditional producers and consumers of cassava, where production has stagnated since 2005. Cassava contradicts the widespread notion that the growth of agricultural production in West Africa is due mainly to an increase in cultivated land. Indeed, generally speaking, from 2005 to 2015, average cassava yields have risen from 10 to 14 tonnes per hectare in the region, with differences across countries.

Graph 1. Cassava Production in West Africa from 1961 to 2013 (in million tonnes)



Source: FAO STAT, 2015

Cause No. 1: Advances in Research

Agronomic research has played a decisive role in increasing cassava production. The performance of today's seeds is in reality owed to the efforts made over decades. The research done by the International Institute of Tropical Agriculture (IITA) since the 1970s has perfected varieties with greater resistance to viruses and scale insects. These varieties have made it possible to achieve yields 40% higher than with traditional varieties. The IITA's research has also focused on developing better small-scale processing technologies (peelers, shredders, mechanical graters). Attractive, suitable and affordable for farmers, the research results have been the subject of a large and successful dissemination policy in Nigeria, Ghana and Côte d'Ivoire.

Cause No. 2: The 2008 Food Crisis

It is undeniable that the rise in cassava production has been a response to West African demand (especially among low-income households, in urban areas and in coastal countries), which has risen sharply since the 1990s and the sudden spike in cereal prices in 2008: consumers have in part turned to this less expensive product. Because of the high per hectare carbohydrate content, cassava is an inexpensive source of calories compared to rice. We can see the extent to which cassava production—a large share of which is self-consumed—contributes as much as rice or other cereals to populations' food security in the event of crises. This increase in the demand for staple foods made from cassava has strengthened the development of micro cassava processing centres. The industrial uses of cassava and its inclusion in animal feed are also on the rise.

Cause No. 3: The Small-Scale Processing Boom

The cassava boom is also linked to demand for processed products such as *gari*, a fast food very well suited to local demand, particularly among low-income consumers. Processing has rapidly grown on the small-scale and micro-industrial levels. In Nigeria, 500 micro-processing centres and 120 SMEs were built between 2005 and 2015 with the help of projects aiming to produce high-quality cassava flour (HQCF). However, generally speaking, attempts to move from small-scale to large-scale processing still face difficulties. Industrial processors have trouble competing with small processors: it is expensive to transport cassava roots (a perishable food) and industrial plants need a regular supply of large quantities. However, there is promising development of new technologies to dry and process cassava into semi-finished products near fields. Finally, we can note that in Ghana, processing received government support through the establishment of various advisory structures (Gratis, the Food Research Institute, rural technology service centres) in all regions of the country, training and networking processing professionals.

Cause No. 4: Innovative Policies

Finally, Nigeria and Ghana have rolled out considerable support efforts for this value chain, even though it was not seen as 'promising' at the time. In Ghana, one unique characteristic was supporting segments downstream from production (i.e. processing). In Nigeria, an ambitious support initiative for this value

chain (the Presidential Initiative on Cassava Production and Export) was launched in 2005. Among other things, it mandates that bakeries use 10% high-quality cassava flour (HQCF)—percentage dropped to 5% in 2007—when making bread so as to lower the country's dependency on imported wheat. So far, many bakers have remained reluctant to use cassava flour, citing the lack of quality control with the flour produced by processing units. Yet, the launch of Nigeria's new Agricultural Transformation Agenda (ATA) in 2011 confirmed this policy guideline encouraging the use of cassava products in industry. The ATA advocates in favour of a return to the 10% HQCF measure for bread production (with a target of 40% in coming years), extending it to alcohol production and imposing an additional tax on imported wheat (100%) in 2012.

The Cassava Processing Sector in Ghana and Nigeria

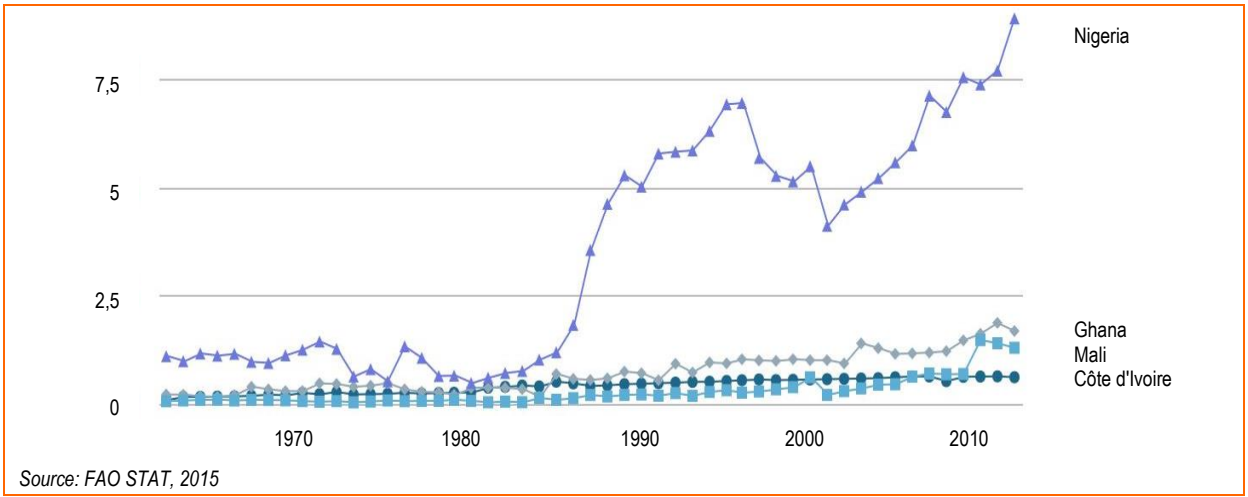
The most modern cassava processing equipment is being developed in Nigeria, which is far ahead of its neighbours. Agrifood companies of all sizes are booming. Thus, most micro and small agrifood enterprises are involved in the production of traditional foods or intermediary products, such as cossettes *(dried flakes), HQCF or starch. Medium-sized enterprises, close to major production sites and managed by local entrepreneurs, process cassava into HQCF, starch and high-quality* fufu *for export (for example, Peak Products Ltd., Abeokuta). Finally, agroindustrial plants (e.g. Nigerian Starch Mills in Ihiala, Anambra State) are the main industries supplying high-quality starch to manufacturing industries such as Cadbury and Nestlé. It should be noted, however, that these Nigerian industries still only process a very small proportion of the country's production.*

In Ghana, two categories of operators share the cassava gari *processing market. First, there are 'micro and small agrifood enterprises' (MSAEs), in the hands of women processors working either individually or in groups, that offer a large artisanal supply and supply the market continuously with small unit production volumes. These MSAEs are currently facing numerous challenges such as the high cost of processing equipment and access to credit. Then, there are small and medium-sized enterprises (SMEs) that have semi-industrial equipment allowing them to handle larger volumes and prepare their products for the market (packaging and marketing). They sell their output throughout the territory, notably in supermarkets. One such SME is Neat Fufu, one of the market leaders in Ghana. These SMEs are developing export sales channels and must now find strategies to withstand strong competition on the local market.*

Source: *Grain de Sel* No. 58, April-June 2012

2. The Maize Boom in Nigeria and Cotton-Producing Countries

Graph 2. Maize Production in West Africa from 1961 to 2013 (in million tonnes)



Source: FAO STAT, 2015

Production Is Booming

The boom is strongest in Nigeria. Between 2000 and 2010, production nearly doubled. It has also risen sharply in Ghana and Mali, but started from smaller volumes. In addition, there has been a widespread and significant increase in yields in the main producer countries (2.2% on average per year). Noteworthy advances have been seen in Côte d'Ivoire, especially prior to 2002.

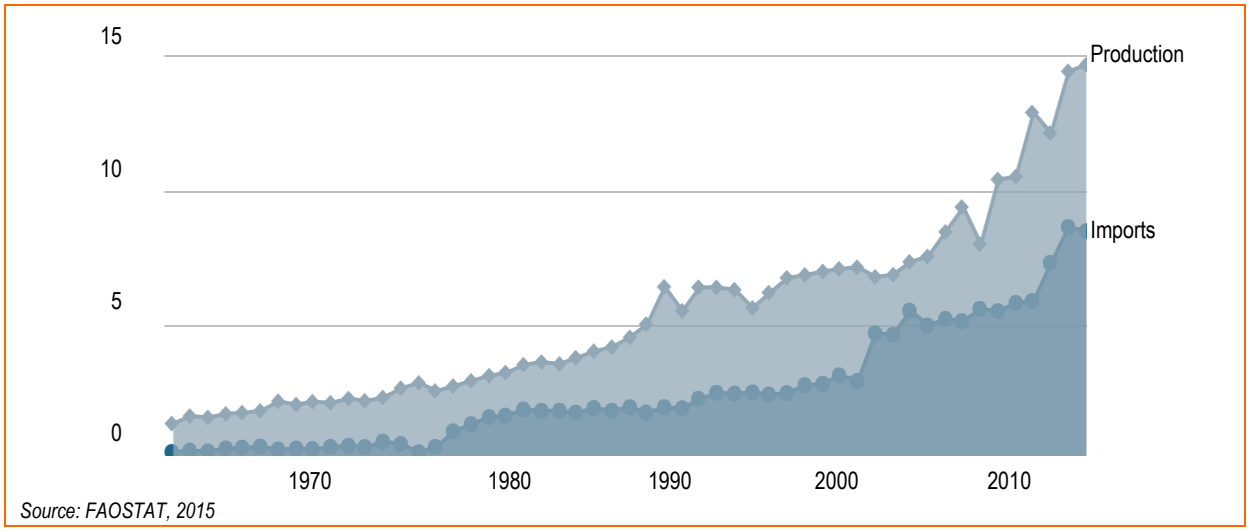
Cause No. 1: Maize-Cotton Interaction
The maize production boom was sparked at the end of the 1980s, specifically in cotton-producing zones (Burkina Faso, Côte d'Ivoire, Mali). Cotton producers who had access to the subsidised fertilisers provided by cotton companies used part of the fertiliser to grow maize that entered into the cotton crop rotation and fertilises fields.

Cause No. 2: The Poultry Farming Boom
Maize is used for human food, but also for animal feed (poultry, cattle, fish). Regional maize production is thus pulled along in part by the vitality of poultry farming and the rise in global maize prices after the 2008 crisis. It notably made local maize more competitive and encouraged poultry and cattle value chain stakeholders to turn to it to feed animals. Nevertheless, it should be emphasised that the instability of supply and aflatoxin problems (linked to poor drying and storage conditions) hamper the competitiveness of the local value chain for animal feed.

Cause No. 3: Intensification Policies
Some governments (Mali and Ghana) have also accompanied the maize boom, seeing this cereal as having the potential to lower food dependency. They have made technological innovations available to farmers and facilitated farmers' access to inputs (improved seed and fertiliser in Ghana). For example, there was a spike in yields in Mali following the 2008 crisis, which corresponded to the launch of a national maize initiative that notably took the form of input distribution. Measures facilitating access to credit (for inputs) have also been taken by public stakeholders, microfinance institutions and farmers' organisations.

3. The Rice Boom: A Half-Hearted Performance

Graph 3. Comparative Evolution of Rice Production and Imports in West Africa (in million tonnes)



Source: FAOSTAT, 2015

Spectacular Performances...

Consumption Taking Off
Rice is now one of the main cereals eaten in West Africa, particularly in urban areas (with Nigeria being the largest consumer). According to the research body IFPRI, annual per inhabitant consumption rose from 31 kg in 2000 to 46 kg in 2014. This increase in demand can be explained by urbanisation (rice is particularly suited to the urban mode of life), population growth, changing food habits, and easier access (opening of the regional market, notably to Asian rice, food security distributions, etc.).

A Major Acceleration in Production
Rice production doubled in the region from 2004 to 2014 (from 7 to 14 million tonnes of paddy rice). The main producer countries are Nigeria, Mali (irrigated rice along the Niger River), and Guinea (rainfed rice). Côte d'Ivoire is an emerging basin. According to ECOWAS, the acceleration of rice production after 2008 can mainly be attributed to improved yields. Three countries have seen major shifts in yields in recent years: Mali, Côte d'Ivoire and Ghana. In Mali, yields have risen from 2 to 4 tonnes/ha since 2005.

Cause No. 1: Post-2008 Intensification Policies
The recent performance of the rice value chain is linked to revival measures taken by governments following the agricultural price crisis in 2008. In most countries, rice is a strategic value chain both politically

and socioeconomically. In Mali, for example, the 'Rice Initiative' made it possible to foster access to improved seed, fertilisers and credit (to purchase seed and tools). Likewise in Senegal, Côte d'Ivoire, Ghana and Nigeria, similar programmes have improved yields. The end of the sociopolitical crisis in Côte d'Ivoire brought about a production revival and a drop in imports starting in 2011. Governments have also purchased local rice from farmers at profitable prices, unlike the former practice favouring purchases from traders offering the lowest prices. Finally, it should be noted that favourable weather conditions in 2009-2010 also had a positive effect on harvests.

Has the NERICA Revolution Happened?

NERICA ('New Rice for Africa) varieties of rice, mainly destined for rainfed agriculture, are produced by hybridising African and Asian varieties of rice. In the early 2000s, they were identified as 'miracle varieties'. NERICA varieties have raised high hopes for African rice producers and received major investments from donors. Good yields were seen in the first years after launch thanks to new varieties with little varietal mixing and good germination capacity. But, over the years, yields have stagnated or dropped because of a lack of seed renewal. NERICA's impact on African rice production is not comparable to that of the varieties that were introduced in Asia and contributed to the 'green revolution'.

Cause No. 2: Trade Policies

Ghana and Nigeria have for their part tightened up rice import conditions. Thus, rice is subject to very high customs duties in Nigeria (110% in 2013), although the rate was revised downwards in 2014 in response to the local rice value chain's difficulties meeting consumers' needs and the rise of illegal rice imports from Benin.

Cause No. 3: Contract Farming

In some countries such as Nigeria and Côte d'Ivoire, contract-based systems between local producers and private processors have emerged. In Nigeria, a partnership was set up with one of the main agroindustry leaders to rehabilitate the government rice mill and develop contractual relations with local producers.

... But Dependency on Imports Continues to Increase

Imports Steadily Rising

Despite this progress, the region's local production has not kept pace with demand and is facing problems competing with imported rice. Imports have increased threefold over the past two decades, making West Africa the largest rice importing region in the world with nearly 8 million tonnes in 2012. Out of the 46 kg of rice consumed per inhabitant in the region, 25 kg are imported. The main importer countries are Nigeria (one quarter of regional imports), Côte d'Ivoire, Senegal and Benin (which re-exports 60% to Nigeria). And the situation may never improve given the downward international price projections and rising cost of local production due to climate change.

Cause No. 1: Contradictory Policies

On the policy level, one can note the sometimes contradictory nature of a policy that is both proactive in developing local production and favourable to importers, illustrating the public authorities' dilemma over whether to protect farmers' or consumers' interests. In addition, the import rice market award system in West Africa has a reputation of being politically sensitive, favouring pressure for tax breaks and not encouraging the local value chain (see *Dynamiques Paysannes*, No. 37, SOS Faim, August 2015). The instability of policies on the rice value chain, shifting with changes in government, does not make it possible to stabilise long-term action to obtain lasting results (e.g. in Nigeria). In addition, subsidy programmes seem difficult to maintain from the economic standpoint in countries that do not have 'lucrative' value chains such as cocoa or coffee as in Côte d'Ivoire. Finally, it seems that rice has taken on a disproportionate importance in policies as the lack of interest in other cereals or tubers has lead to the very sharp rise in the place rice occupies in food systems.

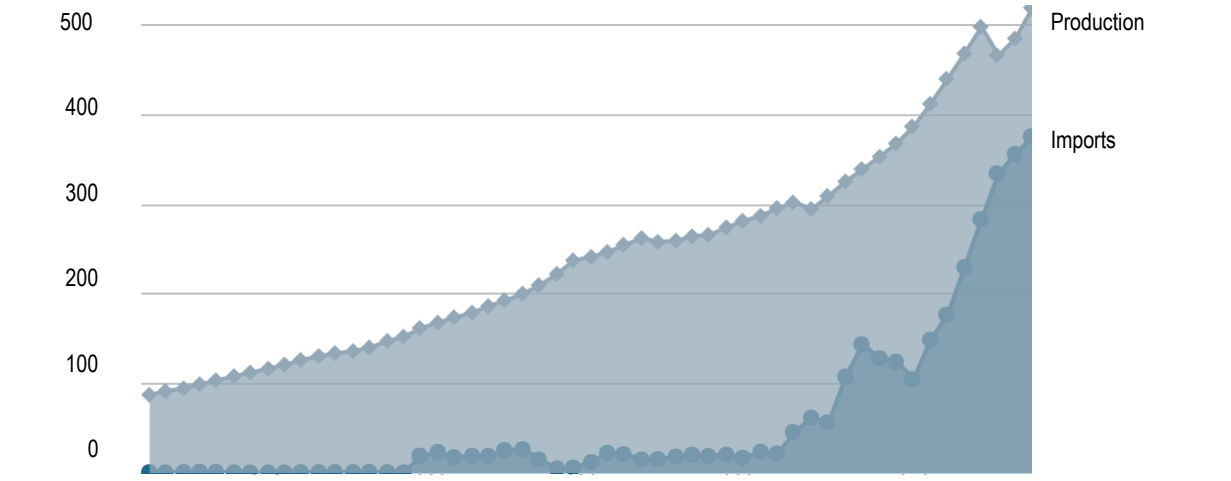
Cause No. 2: Downstream Segments of the Value Chain Are Neglected

Food preferences in regard to rice differ widely throughout the region (broken rice, parboiled rice, etc.). In response to consumers' preferences, rice processing also takes different forms, notably parboiling and milling. In some countries, one can note an increase in the number of mini and medium-sized rice mills. But generally speaking, it seems that the structure of the downstream segments of the value chain (processing, marketing) are still neglected by an approach that focuses on production.

Cause No. 3: Under-Exploited Irrigation Potential
It is thought that less than 20% of irrigable land is exploited in the region. Yet, irrigated rice provides the best yields. 38% of current production comes from irrigated plots whereas these plots cover only 13% of land area.

4. Poultry: Booming Against a Backdrop of Sharp Competition

Graph 4. Comparative Evolution of Poultry Meat Production and Imports in West Africa from 1961 to 2013 (in million tonnes)



Source: FAO STAT, 2015

Production Doubled in Ten Years
The production and consumption of poultry meat have been steadily rising in West Africa for thirty years. The main producers are Nigeria, Ghana, Côte d'Ivoire, Senegal and Burkina Faso. Production nearly doubled from 2005 to 2013 in Ghana, Côte d'Ivoire and Senegal. In Nigeria, after a production spike of nearly 200 million head in 2010, production in now on the decline.

Fierce Competition
Although regional production has increased considerably, imports have gained ground. Imported frozen chickens (mainly from the European Union and Brazil) compete heavily with locally-produced chickens, notably because of a customs tariff (the common external tariff) that is more favourable than before. In addition to this competition, there is also competition between traditional producers and local (semi-)industrial producers. Previously focused on traditional free-range chicken, urban demand is increasingly turning to the ready-to-cook, rapid-cooking and inexpensive chickens offered by importers or local industrial plants.

Leverage Effect: Value Chain Structuring
Generally, zones where the value chain is solidly structured with active inter-branch associations and farmers' unions are where stakeholders are best armed to withstand this competition. However, even there, progress remains to be made, notably when it comes to the supply of quality, reasonable-cost day-old chicks, animal feed and veterinary products. For commercial farms, profitability is closely linked to the price of animal feed (maize or other) that accounts for a large share of production costs. Value chain coordination to lower production costs will absolutely be a key factor in the future.

Blissful Sanitary Protectionism?
As is the case with rice, the poultry value chain is emblematic of the dilemma between trade policies favourable to producers or consumers. Faced with the risks from the avian flue epidemic in 2006, several countries such as Senegal, Nigeria and Burkina Faso have until today banned imports from countries struck by the flue and thus protected their national production. In Senegal, local production has more than doubled since then, despite numerous instances of the import ban being ignored (smuggling). This supply is said to come half from family poultry farms and half from semi-intensive poultry operations. Ghana, on the contrary, opted for an open import policy. Between 1980 and 2009, availability per inhabitant increased sevenfold, one-third of which covered by national production. Finally, in Nigeria, the import restrictions imposed by the

government seem to have helped reduce the per inhabitant availability of poultry considerably and encouraged smuggling of 'semi-frozen' chickens, notably via Benin, where there are public health risks.

What Lessons Can Be Learnt from these Performances?

These performances owe much to demand that is growing very strongly and will continue to grow because it is pushed by a major trend: urbanisation. However, the sharp segmentation of this demand must be taken into account (very specific quality and cost requirements). Local products that will be able to meet urban demand for easy to cook, inexpensive products—such as cassava *gari* or *atiéké*—certainly have a promising future.

Performances are also linked to rising international agricultural prices and the effects of the 2008 crisis. However, it is not certain that this context will persist as rice price forecasts trend downwards in the coming years. In addition, the looming climate change risks seriously hindering production in the most affected zones such as the Sahel.

Performances are also explained by proactive, sometimes innovative, policies. In a region where agricultural policies often focus on intensifying production, Ghana and Nigeria have taken promising measures in support of downstream segments of value chains, with special attention on processing, contracting and marketing. The policies rolled out in these two countries deserve to be more fully documented and discussed in the sub-region.

Advances in research and input purchase subsidies (seed and fertiliser) have undeniably played a decisive role. Nevertheless, they raise the question of how sustainable they are because they are very expensive. Indeed, no countries seem to have managed to set up massive strategies to improve producers' capacity to purchase inputs without depending on government subsidies, for example by facilitating access to credit.

Many observers declare that policies could be even more effective if they were more stable over time and if import regulations were more coherent. These elements call directly on ECOWAS and the common external tariff. It is important that West African trade policy be seen more fully as a potential tool to develop agriculture. There are still wide differences across the trade policies of the various countries. This divergence leads to greater inefficiency in national strategies and poor exploitation of existing commercial opportunities on the regional level.

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This brief was written by Vital Pelon (vital.pelon@inter-reseaux.org) and Nadia Ouattara (nadia.ouattara@inter-reseaux.org). We would like to offer our special thanks to John Staatz (MSU), Roger Blein (ISSALA), Vincent Ribier (CIRAD), Jean-Jacques Grodent (SOS Faim), and Marc Mees (SOS Faim) for their contributions.

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