

WEST AFRICAN CHALLENGES



THE 2008 RICE CRISIS: SHOCK AND NEW CHALLENGES

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West Africa currently imports 5.2 million tonnes of rice, compared with 1.7 million tonnes in the early 1990s, and only covers 60% of its needs, despite considerable rice-growing potential. While West African yields are globally lower than those of the world's leading rice producers and exporters, production costs are comparable to global leaders'. The main impediments to local competitiveness are processing and marketing costs, coupled with low productivity.

When world rice prices soared in 2008 following export restriction by the main suppliers to the world market, the impact varied from country to country, depending on their degree of import dependency and exposure to the world market: between January and April 2008, prices tripled at the world level, doubled in Senegal, and increased by a factor of 1.5 in Benin and Mali. Boosted by high oil revenues, Nigeria bought more rice than ever, whereas Senegal reduced its imports by 16%. The decline in consumers' purchasing power prevented retailers from profiting from the situation (reducing margins and even selling at loss), whereas local producers with stocks were able to make windfall profits. Food insecurity increased sharply in urban areas.

Governments lowered or removed taxes on rice imports, came to the assistance of vulnerable consumers and pursued support policies to increase production and the development of industrial or semi-industrial branches. However, the growth in production (which has remained lower than the increase in consumption) has largely occurred through the increase of area cultivated in rice, a trend that is already being thwarted by the lack of arable land.

The region will for the foreseeable future remain dependent on an international market in which prices are structurally rising and which is increasingly volatile. The most vulnerable urban households will be the most exposed. Increasing the income of such households, promoting the consumption of local foods and regulating prices are therefore the policy options to which priority should be given.

Based on the study "Rice crisis, market trends, and food security in West Africa" (French), this briefing note draws on regional statistics, national market information systems and fieldwork conducted in six countries (Benin, Ghana, Liberia, Nigeria, Mali and Senegal) between May and December 2010. This study was jointly conducted by the CILSS, CIRAD, FAO, FEWS NET and the WFP with financial support from the French Trust Fund at the World Food Programme (WFP). Learn more: www.inter-reseaux.org/ressources-thematiques/article/etude-crise-rizicole-evolution-des

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1 WEST AFRICA, A MAJOR IMPORTER

A major rice-importing region at the world level (accounting for 20% of rice sold on the market), West Africa only produces enough rice to cover 60% of its needs, despite possessing considerable rice-growing potential, notably in Guinea, Nigeria and Mali. Sub-Saharan Africa is highly dependent on imports. This dependency was exacerbated in the 1990s when imports tripled, although the trend in demand has flattened out over the past five years. This dependency increased the most in West Africa: rice imports now amount to around 5.2 million tonnes

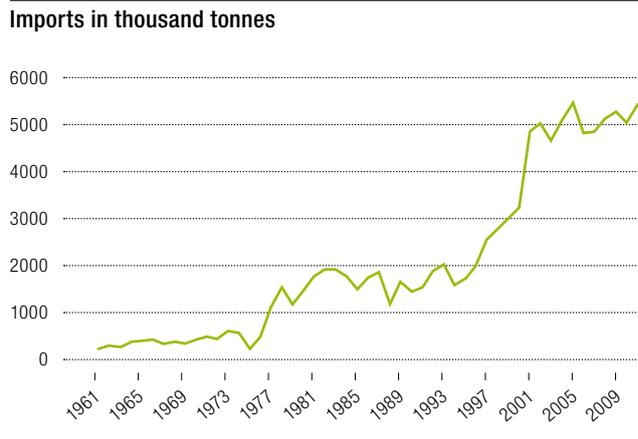
compared to 1.7 million tonnes in the early 1990s (see chart). This trend is a fairly general one in all countries in the region, even though the weight of some countries – Côte d’Ivoire, Nigeria, Senegal – is determining. The region therefore covers for 40% of its needs through international imports of rice, primarily from Thailand and increasingly, Vietnam. The main access points for rice imports into West Africa are Benin/Nigeria, Côte d’Ivoire and Senegal.

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LOW GRADE RICE

West Africa imports increasing volumes of low grade rice. While imports of broken rice were almost unknown in the 1970s, that grade now accounts for more than 40% of regional imports. This trend reflects the high level of sensitivity of West African consumers to prices. The market for imported rice is segmented. Nigerian consumers, who have relatively high purchasing power, prefer to buy long-grained, fragrant rice, often grown in Thailand. Lower grades of rice are mainly consumed in countries such as Guinea, Liberia and Senegal.

Rice Imports



Source: United States Department of Agriculture (USDA), 2010

2 DESPITE CONSIDERABLE RICE-GROWING POTENTIAL

The area devoted to rice cultivation in West Africa amounts to more than 5.5 million hectares, of which almost 2.4 million hectares are located in **Nigeria**, divided between three major production basins (see map) running from the North to the South of the country in the States of Abuja, Enugu and Kano. **Guinea** is the second largest rice-growing zone in terms of surface area, with around 1 million hectares. The basins in Sierra Leone (0.5 million hectares), Côte d'Ivoire (0.38 million hectares) and Liberia (0.2 million hectares) are in fact extensions of the Guinean production basin. In **Mali**, where rice is cultivated

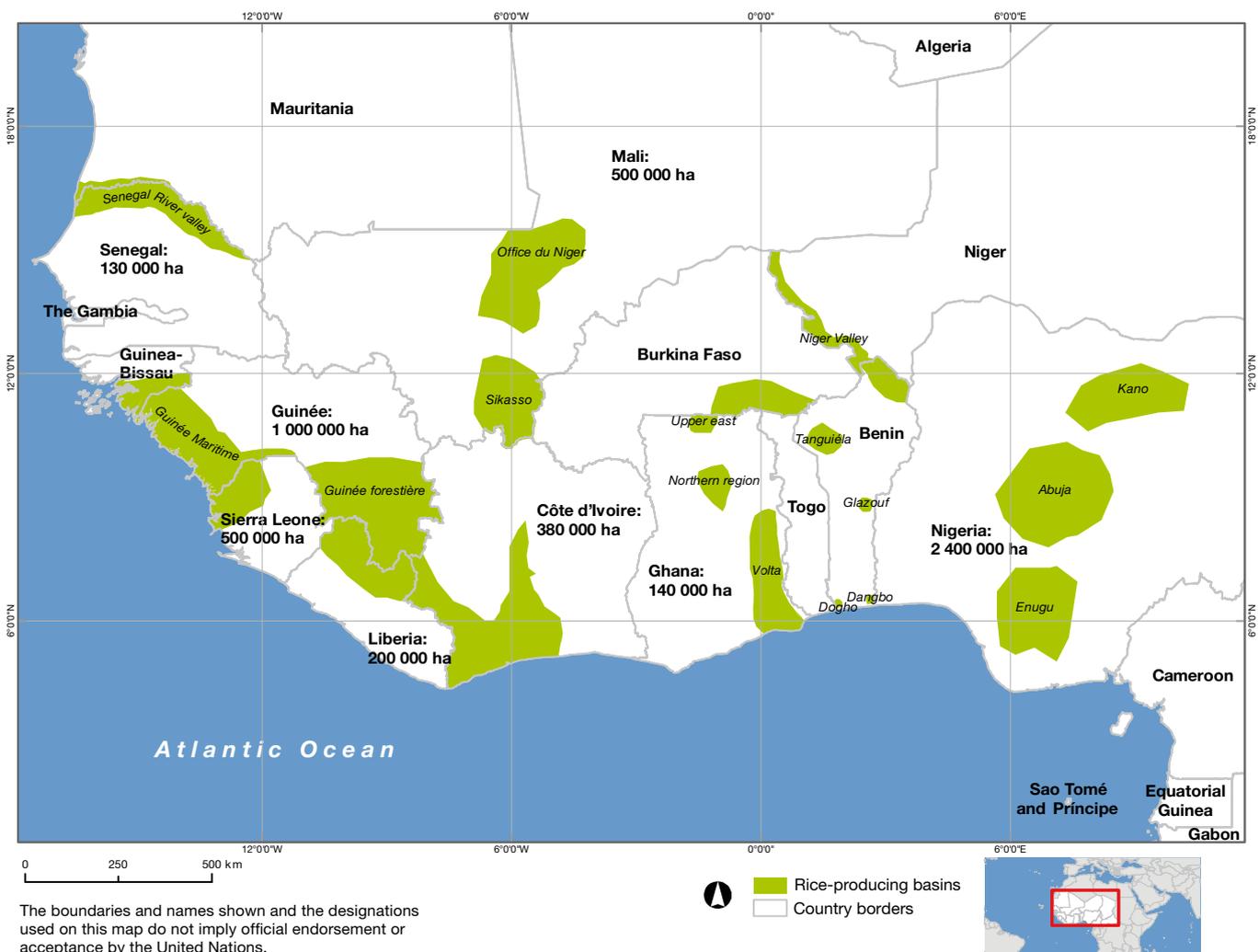
on over 0.5 million hectares, there are two major rice-growing regions, to the North of Ségou in the *Office du Niger* zone, and in the South in the Sikasso region.

Smaller production basins exist in Ghana, where rice is cultivated on some 140 000 hectares in three major rice-growing areas in the North (Upper East), Centre and South-East in the Volta area. Rice-growing in Senegal is primarily concentrated in the region of the Senegal River valley in the North of the country and amounts to some 130 000 hectares of irrigated and rain-fed rice paddies. Lastly, Benin,

which has 60 000 hectares under rice cultivation, has three main production areas, in the North in the region of Malanville, in the West in the regions of Tanguiéta, Materi and Djougou and in the South in the regions of Savalou, Glazoué and Cové.

A wide variety of techniques are used to cultivate rice. Lowland production systems predominate in coastal areas along the Gulf of Guinea and rain-fed crops in plateau areas. Irrigated rice is found in two major areas: in the Senegal River valley and in the *Office du Niger* in Mali to the North of the Ségou region.

Main rice-producing basins



3 SYSTEMIC CONSTRAINTS ON FOOD SECURITY

In West Africa, yields vary widely: the highest rates of productivity are found in the irrigated areas in Mali and Senegal; upper mid-range yields in the improved rice-growing areas of Ghana and Nigeria; and the lowest yields are those in Benin and Liberia, due to the predominance of rain-fed upland rice production and poorly developed irrigation systems. While yields fall well below the 5 to 7 tonnes per hectare reported in Argentina, Colombia, Peru, the United States, or even Vietnam, the average rice yields in Mali and Senegal, estimated to amount to 3 tonnes per hectare, are comparable to those of Thailand.

Production of a tonne of paddy rice costs USD 220 in Ghana and Nigeria, USD 210 in Senegal, USD 180 in Mali, and USD 140 in Benin. These prices are close to the levels observed in Vietnam (USD 130 per tonne), Thailand (USD 190 per tonne) or even in the United States (USD 225 per tonne), all three of which are major rice exporters.

Low productivity and high processing and marketing costs are impediments to the competitiveness of local rice in the regional market. While yields have been improved, the farm-rate price of a tonne of paddy – which is already attractive in many West African countries compared to prices in major exporting countries – could be further reduced.

In coastal countries (see map), rice consumption is close to South-Asian levels: over 60kg per capita per annum in Guinea, Guinea-Bissau, Liberia, Senegal and Sierra Leone. In these countries, which are net rice importers, the share of the commodity in the overall food consumption of the poorest households is especially high. The food security of these households therefore largely depends on access to rice, and to imported rice in particular.

Rice also accounts for a large share of food consumption in Côte d'Ivoire, the Gambia, Mali and Mauritania, where each inhabitant consumes between 30kg and 60kg of rice a year. Rice consumption is less important in other Sahelian countries and certain coastal countries such as Benin, Ghana, Nigeria and Togo, where consumption of dry cereals (maize, sorghum) is much higher.

As rice is mainly paid in cash, its price has a major impact on the food security of households. Considering the high level of rice consumption within the most vulnerable households, a shock to rice prices is likely to produce negative effects on the well-being of

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consumers in Guinea, Guinea-Bissau, Liberia, Senegal and Sierra Leone. Studies carried out by the World Bank in Liberia (2007) illustrate the close link that exists between the price of rice and the well-being of the Liberian population. In 2008, the World Bank estimated that a 30% increase in the retail price of rice would increase the population's poverty rate from 64% to 70%.

EATING HABITS

Greater diversity in eating habits required in urban areas:

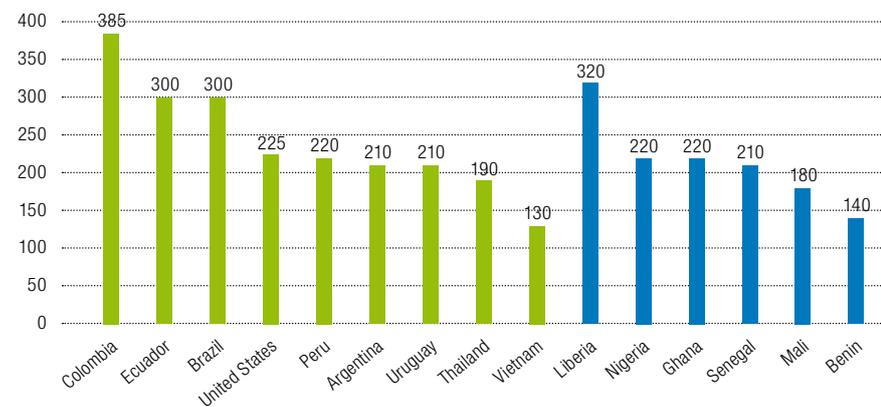
Food vulnerability also affects urban populations. According to the United Nations, the population of West Africa is expected to grow from 315 million inhabitants in 2007 to 480 million by 2030. The rate of urbanisation will also increase. In addition, the shortfall in rice production worsens these trends. If nothing is done, precarious urban populations will become chronically dependent on the world market, in particular, in countries where rice consumption is high in which future price increases would pose a genuine threat to the food security of urban households. Vulnerable urban populations will only be able to cope with market instability if their incomes are increased and alternatives – primarily maize and cassava derivatives – are developed.

Per capita rice consumption



Production costs in 2009

in US dollars per tonne of paddy rice



Source: OSIRIZ

4 THE BRUTAL SHOCK OF 2008

It was against a background of the global economic, social and financial crisis that the major exporting countries introduced voluntary restrictions on their exports at the end of 2007 and above all during the first half of 2008. Following these measures to limit exports, rice prices increased relatively late compared with the increases in the prices of maize, wheat and oil. World rice prices only began to soar from January 2008 onwards, after Thailand announced its intention to limit its exports (see chart). This shock in early 2008 was all the more brutal as world prices during this period of the year would generally be falling due to the arrival of the main harvests from the Asian producing countries.

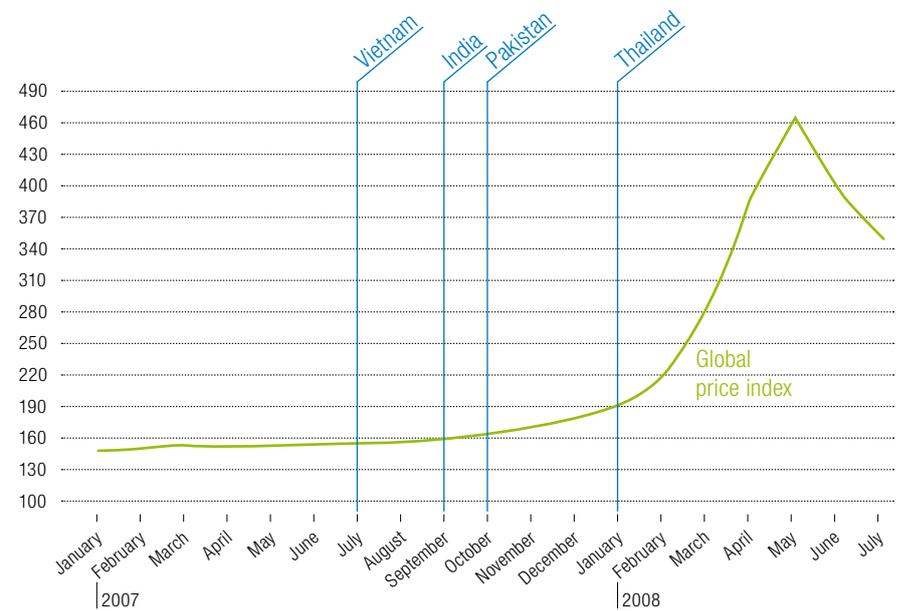
Contrary to the perception that there was no or very little rice for sale on the market, countries which were financially solvent (i.e. those with oil revenues) rushed to buy rice at astronomically high prices (Gulf States, Philippines, and also Nigeria). Other countries, in contrast, had to rein in their purchases or defer them by a few months. This was the case in particular for Sub-Saharan Africa which saw its rice bill rise from less than USD 3 billion in 2007 to over USD 4 billion in 2008. The impact of the price hike made itself felt several months later only.

A variable impact

The impact nonetheless varied from country to country, depending on their degree of import dependency and exposure to the volatility of international markets. Consequently, whereas prices had tripled at the international level between January and April 2008, they “merely” doubled in Senegal. At the same time, prices rose by 50% in Benin and Mali.

Thanks to high oil prices, the value of the Nigerian naira remained strong against the US dollar and allowed thus Nigeria to continue buying rice on the international market. Nigeria

Announcements of restrictions on rice exports



Source: OSIRIZ

never imported as much rice as in 2008. In contrast, rice imports fell by 16% in Senegal in 2008 compared to 2007. As a result of the crisis, the lower purchasing power of consumers led to a fall in demand.

In general, there was no windfall effect for traders. Some Senegalese importers were even forced to sell at a loss when large numbers of wholesalers and retailers saw their customer base start to evaporate. Traders had to cut their margins, as in Mali and Liberia. In Monrovia, these margins fell from 4.3% to 3% in 2008. In contrast, local rice producers, who had stocks available when the crisis occurred, were able to make windfall profits.

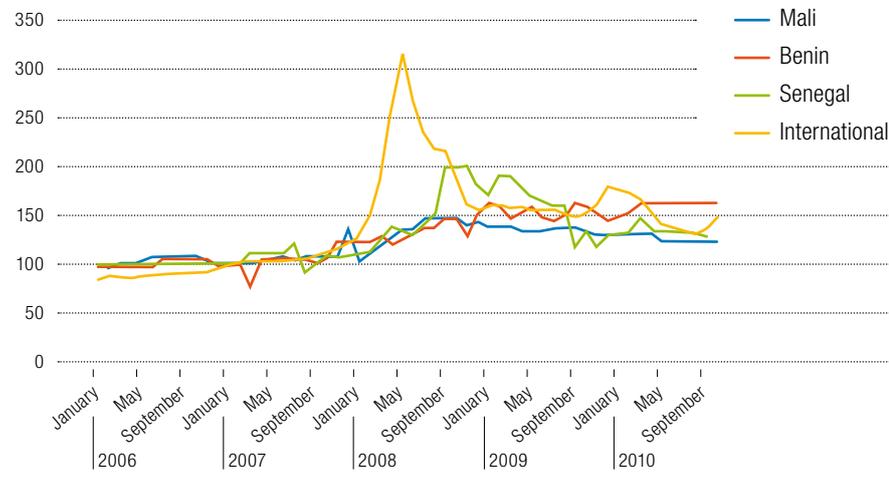
The rice crisis led to an increased prevalence of severe food insecurity in urban areas, where urban households in high consumption countries were spending 20% to 25% of their income on rice. In this context, the sudden surge in rice prices had serious

impacts on households' food security. In Monrovia, for example, 8% of households were suffering from severe food insecurity in 2008, i.e. twice the level observed the previous year. The increase in prices, which affected all foodstuffs, resulted in the consumption of poorer quality foods.

The impact varied from country to country, depending on their degree of import dependency and exposure to the volatility of international markets.

Price index of imported consumer rice

January 2007 = 100



Source: OSIRIZ and SIM

5 GOVERNMENT RESPONSES

Governments introduced both short- and medium-term measures: the former aimed at limiting the negative impacts of price increases for consumers, the latter at improving food production, and in particular rice production. Certain costly emergency measures are still in force three years after the crisis began.

Emergency measures

All governments in West Africa removed import duties on foodstuffs, in particular those on rice. The removal of these taxes was an expensive measure, representing around 1.2% of GDP in Liberia and 0.8% of GDP in Senegal. Although Nigeria and Senegal rapidly reinstated import duties on rice at the end of 2008, rice imports to Liberia were still duty-free at the beginning of 2011. These measures were often accompanied by restrictions on the export of food – which still remain in force in Guinea, Liberia and Mali. In

Senegal, a subsidy on rice was also introduced from May to August 2008. In view of the impacts of the crisis on the poorest consumers, governments sought to introduce programmes to alleviate such impacts. While the programmes to alleviate the food crisis were generally properly financed, this crisis also revealed shortcomings in social protection systems in West Africa. Accordingly, United Nations agencies issued a call in 2008 for food and nutritional assistance initiatives to be launched in 16 West African countries. This call for assistance, which consisted of projects costing USD 221 million, secured funding worth USD 133 million (i.e. 60%).

Structural measures to boost production

In addition to the trade policies and policies in favour of consumers

adopted immediately after the surge in rice prices, West African governments also introduced ambitious support plans for agriculture and in particular for agricultural production. In the longer term, donor institutions also adopted programmes such as

This crisis revealed shortcomings in social protection systems in West Africa.

the European Union's "Food Facility" and the USAID's "Feed the Future" programme, which bear witness that these institutions' renewed interest in agriculture and food security.

Other examples include the rice initiative in Mali, the major agriculture investment programme for food and abundance (GOANA) in Senegal, and the emergency food security support programme (PUASA) in Benin. Mali

aims at producing 1 million tonnes of rice as early as 2012. As part of these programmes, fertiliser and seeds have been subsidised and loans granted to farmers. Governments have financed the development of additional irrigated land and constructed processing facilities.

Overall, governments and their partners have managed to mobilise substantial resources for the introduction of emergency and medium-term measures. The crisis has led to a redeployment of public and private resources towards agriculture. In

particular, governments have sought to attract new players to the rice-growing sector by awarding land concessions. The Malibya joint stock company is the most visible symbol of such efforts. However, following the crisis in Libya, this emblematic project will probably be taken over by other investors.

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6 WHAT HAS CHANGED SINCE 2008

The 2008 crisis has given the West African rice-growing sector a fresh outlook. New relationships have emerged between the State and the private sector in favour of

Before the crisis, rice production in the region was growing at an average rate of 3.7% per year. After the crisis, average annual growth rose to 5.4%.

increased public and business investments in agriculture in general, and in rice production in particular. Some countries are witnessing the emergence of a more professional local sector. However, while these developments offer hope for the future, they have not as yet had an impact on the region's dependency on imported rice, nor have they altered the regional market's vulnerability to international trends. As a consequence of population growth, poverty among rice growers is likely to increase in areas lacking arable land.

► More land under cultivation and greater productivity

Before the crisis, rice production in the region was growing at an average rate of 3.7% per year. After the crisis, average annual growth rose to 5.4%, in large part due to increased rain-fed rice

production. This is primarily attributable to the increased area of land under cultivation (the average annual growth rate of areas cultivated in rice has risen to 3.8% annually, compared with merely 2.2% before the 2008 crisis). In contrast, yields have continued to rise at more or less the same pace as before, increasing from 1.5% to 1.6% per year (see chart).

This increase in production has helped to improve the rate of coverage of West African consumption by local production. It remains to be seen whether in the near future these rates

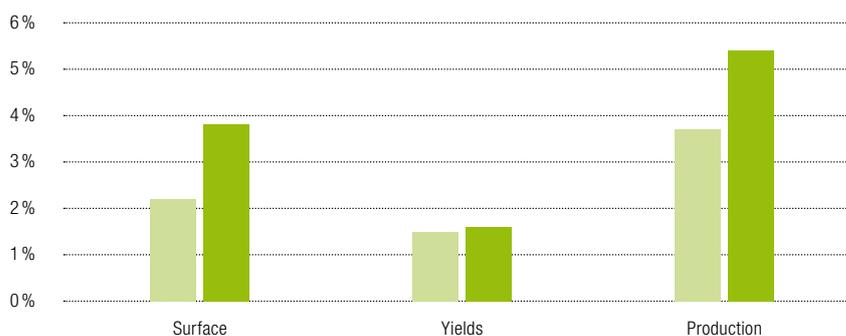
of growth in production through the extension of land area will be able to meet the needs of consumption, which are continuing to grow at a rate of 5% to 6% a year.

► Greater diversity in eating habits

The 2008 crisis prompted consumers to replace rice with other food products and has lent new momentum to rival food sectors. Consumption partly shifted to cassava flour, a product for which demand can clearly be seen to have soared in Benin, Ghana, Guinea, Liberia, Nigeria and Sierra Leone. There has also been increased production and vigorous growth in

Growth in surface areas, yields and rice production

percentage per year



Source: United States Department of Agriculture (USDA)

sales of cassava flour, also known as *gari*, since 2008. Moreover, with the crisis, the rate of increase in rice consumption in Senegal has fallen in favour of maize. The consumption of maize – imported from the West African region and also from overseas – has grown in that country by a rate of 18% per year since 2008.

► New relationships between the public and private sectors

Whereas the 1990s saw the public sector disengage from rice-growing sectors, we are now witnessing a massive return by the State to all stages of the value chain. Since 2008, West African rice-growers receive regular allotments of subsidised fertilisers. In some cases, as in Benin, government departments distribute enhanced seed free of charge. The creation of new public cereal stocks (Ghana, Nigeria), and the introduction of purchasing schemes that favour producers (Mali, Niger), marks a change in the strategy towards public intervention, which now aims to steer the market. Food aid in rice has in fact been falling in West Africa since 2008, following the significant increase in the commodity's price. Some partners have increased their purchases of local rice and are piloting direct purchases from producer organisations (the WFP's "Purchasing for Progress", P4P, project), thereby signalling their desire



Photo : Patricio Mendez del Villar / CIRAD

PRESSURE ON ARABLE LAND

While current market dynamics would seem to favour higher income opportunities for rice-growers in the Niger basin, the outlook appears to be less promising for certain categories of producers dependent on irrigation systems of the Niger and Senegal River systems, where competition for land is fierce. As a result of population growth and the lack of new land being developed for irrigation, the division of existing farmsteads is reaching critical levels.

The size of farms is sometimes below the threshold for generating surpluses that can then be sold, or even below that needed to feed the households exploiting the land. In the 1970s, for example, the average size of farms in the *Office du Niger* (Mali) was 10 hectares;

by 2009, the average size had fallen to less than two hectares per farmer. In the Niono area, new farmers are given merely a quarter of a hectare – barely enough to provide enough food to feed a household for a few months, once charges and fees have been paid. The *Office du Niger* is a victim of its own success in that the number of farmers working there has doubled in the last ten years.

The same trend can be seen in the new developments in the Upper Senegal River valley in Bakel, a region where malnutrition levels are extremely high. Irrigation schemes are granting such small plots in order to allow the highest possible number of households

to gain access to land, an approach that implicitly favours auto-consumption of rice at the household level over the production of marketable surpluses.

A "poverty trap" is therefore slowly closing over the small-hold irrigated rice farmers in Mali and Senegal. The first generation can live adequately off the produce of a reasonable area of land; however, the same area of land is too small to meet the needs of households from the following generation. The latter will only be able to escape from food insecurity by developing activities outside the rice sector such as the cultivation of rain-fed crops areas and non-agricultural activities.

to better structure local producers' access to the market.

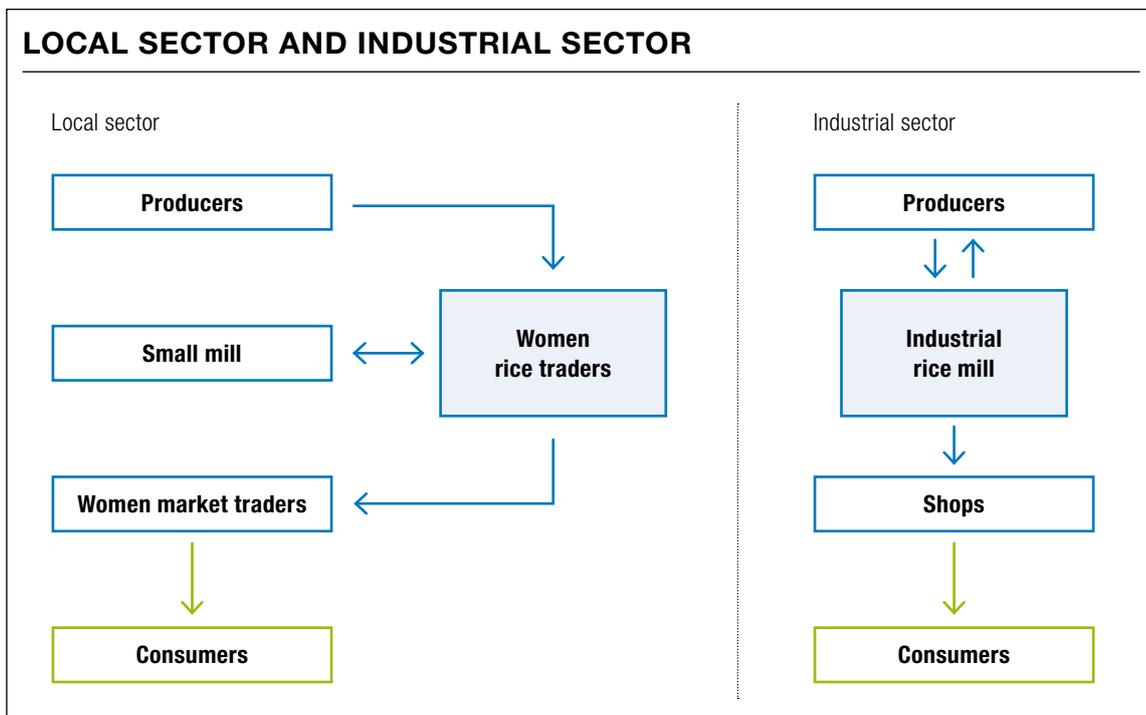
► Integrating the local sector more effectively

Increased government intervention has also prompted the development of private rice mills, whose financial capabilities would allow for the investments necessary to intensify the local value chain. The 2008 crisis has in fact accelerated pre-existing dynamics, particularly the transition from a small-holder sector to an industrial or semi-industrial sector that is more integrated and capable of competing with imported rice in terms of quality. This sector is structured around high-capacity processing units. These rice mills, which have signed contracts

with producers, provide seed and inputs to rice farmers, who in turn sell their production to the contracting rice mill. This ensures a regular supply to the mill of a uniform, high-quality raw material. The paddy rice is then processed into high-quality consumer rice and sold through a network of shops, thereby competing with imported rice. Organising the sector in this way removes four major constraints that exist in the local sector:

- a) The mix of varieties,
- b) The regular supply to the rice mills,
- c) The quality of the local rice sold on the market,
- d) Its presentation to consumers.

The industrial rice mill is therefore becoming an agent of integration for the regional value chain. A wide variety of models already exist: in Ghana and Nigeria, US and Singaporean multi-nationals are putting this system in place, whereas in Benin, such a system is promoted by an NGO working with farmers' organisations.



7 OUTLOOK

In the future, population growth, urbanisation and changes in food preferences are likely to prolong the structural trend towards increased per capita rice consumption.

Progress towards regional self-sufficiency will be made through the introduction of integrated branches in which industrial mills will maintain formal links with actors upstream and downstream. Public-private partnerships also offer genuine scope for development in countries with substantial rice-growing potential such as Benin, Ghana, Mali, Nigeria and Senegal. The emergence of an integrated local rice production sector also offers an opportunity to professionalise the sector and could also boost the purchase of locally produced rice. However, it would be misleading to assume that such partnerships would avoid resorting to rice imports from the global market in the short- and medium terms.

The region should remain largely dependent on the international market to make up for deficits in its rice-growing balance. In an international context that is now marked by highly volatile prices, the threat of a new crisis similar to that in 2008 weighs heavily on West Africa. The increase in the prices of wheat and maize in 2010 and 2011 are in this respect a shot across the bow for the region.

Towards concerted action at the regional level

The development of public policies that respond to the extreme volatility of food prices is the challenge at hand for West Africa. This was clear in 2008 when policies provided for trade restrictions and subsidies had limits. Since then, the actors involved in the rice sector have been seeking reliable information in what has now become an unpredictable policy environment. The taxation regime for rice imports and production subsidies in particular can change without warning.

Prices can also be regulated through interventions in the physical market by government agencies and companies. The 2008 crisis did in fact prompt governments to boost public stocks of cereals. In most cases, these stocks were primarily used to make food available to populations considered to be vulnerable to food crises – and not to regulate prices in the markets. Price regulation, based on predictable institutional purchases, with price objectives and publicly known purchasing volumes, would promote market stability.

Given the strong level of interdependencies in the regional rice market, the introduction of a regulation policy should be discussed at the level of the Economic Community of West African States (ECOWAS) and the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS). This regional response would aim at co-ordinating national policies in order to avoid measures that might have unwanted effects. In a second phase, an attempt should be made to find synergies between States.

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LEARN MORE

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USEFUL LINKS

- Africa Rice Centre: www.warda.cgiar.org
- FAO Food Price Index: www.fao.org/worldfoodsituation/wfs-home/foodpricesindex
- FAO (2011) FAOSTAT: <http://faostat.fao.org>
- Fewes Net : www.fews.net
- The website of rice in Latin America: www.infoarroz.org
- World Food Programme: www.wfp.org/food-security
- USDA : Production, Supply and Distribution Database: www.fas.usda.gov/psdonline



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