

Policy Dialog in Rice Food-Security in West and Central Africa

IN THE wrong economic environment, any ‘economic’ activity may not be viable—rice farming in West Africa is no exception. WARDA is ideally placed to influence governmental policy in its member states, simply because it is a political Association in its own right. WARDA economists investigate the whys and wherefores of every aspect related to rice farming and marketing, with a view to providing vital information to help national governments provide good policies for their rice farmers. It is a political tightrope, but somebody has to be there to represent the lowly farmers at the highest levels, and we feel it is our duty to fulfill this role.

The problem of the ‘new’ crop

As recently as 1993, an external review of WARDA felt it necessary to answer the question: “Is there a need for an international effort in rice research in West Africa?” The question had been asked many times before, and arose partly from the misconception that rice was not an indigenous crop of the African continent, but had rather been introduced from outside. Even today, many people still consider rice to be a ‘new,’ or non-traditional, crop in Africa. All the time, the reality is that rice—at least the indigenous African rice (*Oryza glaberrima*)—has been cultivated on the continent for at least 3500 years. What is more, the populations of the countries of the western coastal belt—The Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia and western Côte d’Ivoire—have been consuming rice as a staple for a long time. Rice made up 46–85% of their cereal intake in the 1960s!

Still today, however, the label of ‘new’ dogs efforts to promote rice-sector development in the region, while

the people themselves make demands on the market that local production cannot match.

However old rice might be as an African crop, there is no denying the sharp upturn in consumption in West Africa since the 1970s. While most developing countries around the globe were experiencing ‘stable’ growth in rice demand at 3% per year between 1975 and 1983, the *average* growth rate in West Africa was over 10%. This figure, however, masks a great diversity among the countries. Demand grew rapidly in some non-traditional rice consumers—for example, Nigeria experienced 25% per year growth rate. Yet, even some traditional rice-consuming countries experienced fast growth, such as Côte d’Ivoire at 15%.

Causes and effects

If we compare these figures with those for population growth over the same period, it is clear that simple population growth is not responsible for these huge increases in demand, as that averaged 2.5–2.7% annually.

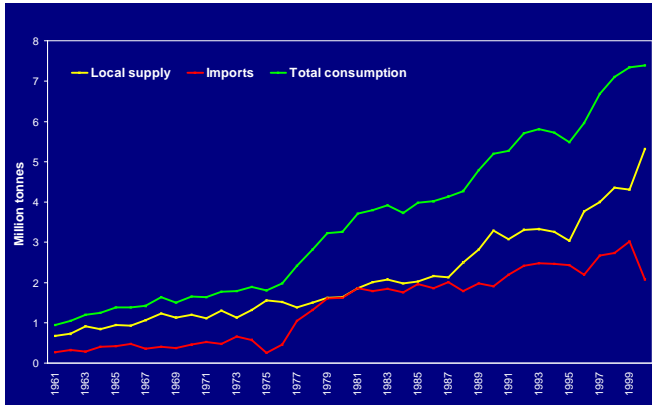


Figure 11. Rice trends in WARDA Member States, 1961–2000 (Source: FAO-STAT 2001)

One major feature of the 1970s was the droughts that affected the sub-region. The worst affected zone, the Sahel, is where many of the traditional cereals are grown—for example, millets and sorghum. The droughts inflicted widespread crop failure, so large quantities of cereal had to be brought in just to keep people alive. Rice was a major component of the cereal imports at that time.

The droughts also resulted in a certain amount of migration from rural to urban areas, especially in the coastal areas. Migration imposes major changes on a person’s lifestyle. For example, the immigrant is almost always no longer in close contact with his (or her) extended family. This has an immediate effect on the foodstuffs of choice—for example, processing a traditional staple food such as yam is time-consuming; if it is being done for a large family it may be worth the investment, but for just a few people it may reasonably be considered too time-consuming. Time is a valuable commodity to an urban dweller. First, he (or she) has less of it, because he is working to earn a living and also has to travel to and from the place of work. So urban dwellers tend to opt for foods with short preparation times. Second, ‘natural’ resources easily available in a rural village context—such as wood for fuel—are not so

abundant in towns. If fuel is suddenly a scarce commodity, it makes sense to opt for foodstuffs that use less of it, in other words, foods that cook quicker. In addition to everything else, most urban dwellers have to buy their food where their rural counterparts produce their own. Thus, at least initially, an extra attraction of rice was the low cost of the imported grains.

“The importance of the time factor in townspeople’s preference for rice over traditional staples,” explains WARDA Policy Economist Frédéric Lançon, “is shown in the fact that preference is retained even if the price of rice increases.” For example, a consumption survey carried out in Burkina Faso after the devaluation of the CFA franc showed that even after the price of imported rice increased, consumers maintained their consumption level at the expense of other food.

Between 1975 and 1985, rice imports to West Africa rose from 400,000 tonnes per year to 2 million tonnes. Meanwhile, the sub-region went from producing 72% of the rice it consumed in the 1960s, to 59% in the 1980s.

The response

Naturally, national governments became concerned about their countries’ dependence on imports of a basic food commodity and set about revitalizing the rice production sector.

In the 1960s and 1970s, that pinnacle of agricultural success had been reached, as the Green Revolution swept the production of wheat and rice to new heights, especially in Asia. “Fortuitous,” any agriculture minister in Africa might have thought, “that the crop we so want to revitalize is doing so well.” The solution was easy: bring the Green Revolution rice varieties in to Africa, establish vast irrigation schemes, and watch it all take off!

In fact, the idea of importing exotic solutions to Africa’s agricultural problems was nothing new. The same had been seen in the colonial days of the mid-1900s. However, the colonials had failed to provide a sustainable



High visibility was popular among national governments and donors alike

system, mainly because they imposed their ideas on the local farmers, and managed everything themselves. When they left, they took the know-how with them and everything collapsed. But, surely the Green Revolution was something different... or was it?

The construction of large irrigation infrastructures was equally supported by the donor agencies—after all, those were the days when donors wanted visibility in the recipient countries, and there’s little more visible than a huge dam and associated irrigation structure!

So, national governments and donor projects established numerous irrigation schemes throughout the region, while providing overall management and support for each scheme. “One thing that history teaches us,” a wise man once said, “is that we learn nothing from history.” Farmers were ‘taken on’ much as employees of the schemes—they had no ownership stake in the fields they farmed and had no responsibility for management at the scheme level. With no responsibility, farmers had no experience of scheme management, being restricted as they were to their ‘own’ fields.

The whole concept of rice self-sufficiency was expensive: on one side, the governments were subsidizing the production through support and maintenance of the

schemes and provision of inputs, while on the other side, they were controlling the market price of rice to ensure that consumers could afford to buy it! Thus, at various times from the mid-1970s onwards, governments faced economic crises and had to cut their allocations to scheme maintenance and production support. As governments and projects pulled out of scheme management, the fact that the farmers had no experience in scheme management meant that the systems deteriorated rapidly.

Then, in the 1980s, governments were ‘forced’ into economic reforms, especially those associated with Structural Adjustment. One immediate effect of these reforms was the liberalization of trade. This has been an on-going process since Structural Adjustment, and is becoming more and more regulated under the World Trade Organization. The effects of economic reforms were exacerbated when Indonesia attained rice self-sufficiency for the first time in the mid-1980s (up till then it had been a major importer of rice), which contributed to a major downturn in the world rice price, rendering domestic production difficult to support in the face of cheap imports. By the mid-1990s, international aid had been drastically reduced and the geopolitical climate in Africa had changed significantly; governments no longer felt the need for a ‘soft’ approach and hardened their economic reforms. By the end of 1995, most African governments had completely dismantled support to rice production. Thus, the whole issue of the competitiveness of local rice production against cheap imports was raised. Can local production without governmental subsidy compete with cheap rice on the world market?

When market liberalization began in the mid-1980s, the world price for rice was increasing. This provided an incentive for farmers, and resulted in an increase in domestic rice traders and retailers. Despite the devaluation of the CFA franc and other West African currencies, the price of rice imports dropped in 1998, favoring importation. Meanwhile, rural–urban migration fueled an increase in rice consumption. In addition, the

removal of Nigeria’s rice-import ban led to a sharp increase in rice imports into that country alone, from 300,000 tonnes in 1993 to about 1.5 million tonnes at the end of the 1990s.

Thus, projections of rice production and demand for the region predict an alarming increase in rice imports during the first decade of the twenty-first century, initially to about 4.5 million tonnes in 2010 to anywhere between 6.5 and 10 million tonnes by 2020. There are serious questions as to whether national economies will be able to sustain these levels of imports. So, the need to increase local rice production becomes both an economic and a political issue. Meanwhile, changes are underway in Asia that will seriously affect the volume of rice surplus that is exported. In particular, Asian countries are diversifying their agricultural production toward crops other than rice; limits are being set on rice areas, as increasing urbanization puts increasing demands on productive land and water; domestic demand continues to increase with increasing population levels (although per-capita consumption is stagnating). This is an additional incentive for West African states to diminish their reliance on the world market for staple food supply.

Enter WARDA...

WARDA was established in 1971 in the wake of the Green Revolution in Asia. Founding member states wanted a mechanism whereby the Green Revolution technology could be imported and used locally. The timing was fortuitous, as the boom in rice consumption in the sub-region really began in the mid-1970s.

As early as 1978, WARDA commissioned a team from Stanford University (USA) to conduct a comprehensive study on the competitiveness of domestic rice-production systems in five West African states. Subsequently, WARDA economists and students conducted repeat studies in the mid-1990s to see the evolution in competitiveness. One of the measures used was the Domestic Resource Cost ratio, or DRC, which

Domestic Resource Cost ratio

The Domestic Resource Cost ratio, or DRC, measures the ratio of domestic factors used to produce one unit of rice (e.g. labor and capital invested in the production) to the added value generated by this unit of rice (i.e. the value of the production minus all the investment costs, e.g. seed, fertilizer, energy). The DRC is estimated using social prices—that is, prices that would prevail in the absence of government intervention on input and output markets (e.g. subsidies on fertilizer sales price, duty on rice imports) or market failure (monopoly). If the ratio is greater than one, more domestic resources are invested in producing the rice than the added value generated by the production activity—there is no comparative advantage in producing rice and the domestic resources would be more efficiently utilized if allocated to another productive activity. Conversely, if the ratio is below one, the rice is produced using less domestic resources than the added value generated—rice producers do have a comparative advantage.

measures the socio-economic profitability of domestic rice production (*see* Box ‘Domestic Resource Cost ratio’ for definition). Over 15 to 20 years, all countries studied showed a positive trend (that is, decreasing DRC, *see* Table 2). In that period, Côte d’Ivoire moved into a position of comparative advantage in rice production, while Mali and Sierra Leone improved theirs; only Senegal remained in a state of disadvantage.

Table 2. Changes in Domestic Resource Cost ratios.

Country	1978	1993	1995	1996
Côte d’Ivoire	1.68	1.02	0.73	
Mali	0.69			0.40
Senegal	1.66			1.12
Sierra Leone	0.89		0.55	

Sources: CERDI Université d’Auvergne; Stanford University; WARDA.



Drying rice on dusty streets exposes it to dust and stones, reducing the marketing quality



Improved processing technology exists, but it is not operated at optimum capacity because of lack of incentive to produce high-quality grain

The improved competitiveness of domestic systems may be partly explained by improved productivity, and partly by reduced production costs. Significant contributory factors have been the devaluation and depreciation of West African currencies against the US dollar, and the upward trend in world rice prices seen in the early 1990s.

“Competitiveness is a complex issue,” says Lançon. “For example, transportation is a major expense for the market cost of any product, including imported rice. So, in coastal countries like Senegal, imported rice is highly competitive, while in landlocked countries like Mali the price of the imported rice is inflated by the overland transportation costs.” Of course, these sorts of economics apply to all products almost everywhere in the world. “The same trend can work against producers in remote locations,” continues Lançon, “whereby the cost of transportation to market may make marketing unprofitable for the unfortunate farmer.” This, in turn, may be a major disincentive to remote farmers increasing their rice production.

“In many countries of the subregion, quality of local rice is a major issue,” says WARDA Impact-Assessment Economist Aliou Diagne. “Local rice has acquired a reputation for being markedly inferior to imported rice, and so suffers as a result.” Senegal is a case in point, where in recent years, local production has gone to waste, while consumers buy huge quantities of imported Asian rice.

The lesson here for WARDA, and the countries that it is trying to help, is that the rice sector has to be viewed and adapted holistically. “Policy on its own can contribute nothing,” says Lançon, “although ‘poor’ policies may make aspects of the rice sector unattractive and ultimately untenable. Policy should be used rather to enable the rice sector to function. Farmers need encouragement, if not incentive, to improve their productivity and quality of their product. Processors need the same type of encouragement to improve the quality of their work, and the main incentive is going to be profit. If the consumers continue to view local rice as an inferior product, increasing production may not help. However, if

governments step in at every level—to help farmers improve yields, to help processors improve quality, and to publicize the improved quality of local products to the populace—then everything should work together for everyone’s benefit.”

It is not enough, however, for WARDA to use its analysis tools and then hand over the results to those who should use them. The policy-makers themselves need to be able to understand, interpret and draw their own conclusions from policy analyses. “Participation is crucial,” says Lançon. “It is important that all rice stakeholders understand the value of policy analysis, but also that they are involved in policy dialog. WARDA can provide the policy-analysis tools and training in their use and interpretation.”

In the overall policy-dialog arena, WARDA has certain advantages over national systems, mainly because of its status and role within the subregion. Specifically, WARDA is a research center with a mandate to conduct rice research, including policy research; it is also an intergovernmental association of member states and, as



Having won the battle against diseases, insects and weeds in the field, local rice may still not be able to compete with imported products in the marketplace

such, has political support from its member nations. Despite this, however, it is physically *outside* of the national political boundaries. “From our position, we can bring together representatives from different ministries within countries who would otherwise not necessarily work together,” says Lançon. “For example, we played an intermediary–facilitator role of bringing together ten types of stakeholder in Nigeria to discuss priorities for research and policy” (*see* Box ‘Case Study: Nigeria’).

“WARDA and its partners have the technologies,” emphasizes Director General Kanayo F. Nwanze. “For example, the NERICAs to improve productivity in the rainfed uplands, the Sahels and other varieties for the Sahel irrigated ecology, the thresher–cleaner to improve output quality at the farm level. The same concept of participation that has been used to develop and disseminate these technologies needs to be applied to policy dialog.”

With USAID funding, WARDA has embarked upon a major rice-sector review for Nigeria with just this kind of holistic view (*see* Box ‘Case Study: Nigeria’). “If we can achieve sub-sector integration in Nigeria, with appropriate policies in place for overall rice-sector development, we will have a model to apply elsewhere in the subregion and beyond,” Lançon concludes.



Small-scale paddy dehullers provide the bulk of processing capacity in Nigeria

Case study: Nigeria

"If WARDA cannot do something to help Nigeria, we might as well give up!" says Director General Kanayo F. Nwanze. "These words might sound harsh, but the potential for rice in Nigeria is huge, and for WARDA to ignore Nigeria would be to cut off half its potential impact." And this is no exaggeration from a native Nigerian. Half of the subregion's population lives in Nigeria and half of the subregion's rice area is there.

Thirty years ago, agriculture was the economic mainstay of the country, contributing 70% of the GDP. In the 1990s, it contributed a mere 30%. Rice itself has moved from being a luxury good to a staple food. Consumer demand has grown at an average of 6% per year. The country that was self-sufficient in rice in the 1960s, has become completely import-dependent. Imports of rice in 1999 alone amounted to one million tonnes, which cost the country half a billion US dollars.

Potentials and constraints

"Nigeria is like a miniature version of the whole subregion," says WARDA Production Economist Olaf Erenstein. "It stretches from the coastal rain forest in the south to the Sahel in the north." Within the agro-ecological zones, every type of rice farming known in the region is possible—mangrove-swamp and deep-water, rainfed upland and lowland, and fully irrigated. However, all rice ecologies in the country are plagued by low and decreasing yields, partly as a result of increasing production costs and lack of available inputs (mainly fertilizer). In the irrigated sector, there are reports of capital-intensive infrastructure established in the 1970s and 1980s having been abandoned!

"Another area of serious concern is marketing," says Erenstein. "Local rice has a very poor market image compared to imported rice." There are various reasons for this, not least of which is grain quality—post-harvest handling and processing of local rice introduce foreign bodies (especially stones), which consumers find unacceptable. Consequently, local rice suffers a 20–30% price penalty on the market. To make matters worse, compared to readily available imports, local rice supply is irregular. "The whole marketing system has become a vicious spiral," continues Erenstein, "with poor quality driving poor prices and market image, and consistently poor prices acting as a disincentive for producers to improve their product."

"Clearly, sweeping changes are needed," says Policy Economist Frédéric Lançon, "and many of these will need to be at the policy level, so that they can be enforced. Otherwise we stay with the status quo."

Rice sector study

WARDA is implementing a two-year rice-sector project, funded by USAID, with the aim of formulating a sound and economically viable strategy for the Nigerian rice economy. The specific objectives of the project are:

- to provide an up-to-date analysis of the Nigerian rice economy—to describe, document and analyze the major trends and underlying constraints, their causes and effects;
- to identify opportunities for developing the rice economy, including possible solutions to the major constraints, and 'windows' of opportunity;
- to develop a strategic plan for the development of the rice economy within a competitive world;
- to lay the groundwork for subsequent implementation of the strategic plan.

In the first year (November 2000 to November 2001), available published data were reviewed by Visiting Scientist Godwin Akpokodje of the Nigerian Institute of Social and Economic Research (NISER). Akpokodje also helped in an institutional and policy review. These reviews resulted in a state-of-the-art paper. At the same time, rice-sector stakeholders were identified and consulted with a view to forming a partnership. In November 2001, a first stakeholder workshop was held bringing together all the appropriate parties to review the outcome of the first year of project activities, and to plan the follow-up activities for year two.

Rice policy in Nigeria

"Over the past 30 years or so, the rice sector in Nigeria has been characterized by active government participation and serious inconsistency," says Akpokodje (see Figure 12). "The swings back and forth between liberal and protectionist policy are counterproductive for the rice sector, as stakeholders at all levels are unable to make long-term planning."

“While trade policy has been viewed as the major option for sector development,” continues Lançon, “supporting policy to take advantage of the protection afforded at various times has been completely lacking.”

The value of the rice sector project is that it should provide the basis for medium- to long-term stability. “WARDA has technologies and experience in many areas where improvement is needed in the Nigerian rice sector,” says Nwanze. “Yes, policy has a major role to play, but it is in creating the enabling environment that policy plays its key role. Nigeria is already a pilot country within the African Rice Initiative (see ‘The African Rice Initiative: taking the NERICAs to Sub-Saharan Africa,’ pages 9–14) and NERICAs are a major component of what we have to offer, but there are crucial issues to address to make the whole rice sector viable and sustainable.”

Given what has been learnt in the sector study so far, it is likely that WARDA will recommend targeting of policy and technology; all too often, blanket recommendations and policies do not allow the potential to be reached in any particular ecology or sector. Development of the whole rice sector will surely be dependent upon improving farmers’ access to inputs, and making such access sustainable. Credit will also be a vital issue here. The issue of local rice marketability will require a major drive to improve processing capacity and quality, which itself may require financial support and training. At the same time, a massive awareness campaign is going to be needed so that consumers are made fully aware of the improvements in local rice quality and therefore become more inclined to buy it.

“This looks like a tall order,” concludes Nwanze, “but I honestly believe that Nigeria can, and should, become a powerhouse of rice production in the subregion and set an example for other countries to follow.”

