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- FORUM -

STREAMLINING POLICIES FOR ENCHANCING RICE PRODUCTION IN AFRICA: PAST EXPERIENCES, LESSONS LEARNT AND THE WAY FORWARD

TUNJI AKANDE, YOUSSOUF CISSE and P. KORMAWA[1]
NISER, Ibadan, Nigeria
Institut d'Economic Rurale, Bamako, Mali
[1]Assistant Director of Research, Africa Rice Centre (WARDA)

ABSTRACT

There is a consensus that African development confronts several challenges, which include alleviating widespread poverty and unemployment, providing basic foods for the people, containing the HIV/AIDS pandemic, eliminating gender disparities and ensuring sustainable management of natural resources. In order to overcome the problem of food supply, investment policies have focused on certain commodities. Rice *(Oryza sativa)* has been at the centre of particular policy attention in West Africa since the 1970s, following the formation of West Africa Rice Development Association (WARDA). Even though substantial investments and policy actions have been undertaken, the results belied the efforts made and expectations nursed. Africa today still depends on rice imports at a scale never imagined and domestic rice production programmes have been largely unsuccessful. The question is: What went wrong? Why has Africa been unable to produce enough rice to stem imports? Why did the initial investments in irrigation schemes and programmes fail? Now that attention is on expanding rice cultivation to other parts of Africa, what policy imperatives are essential to ensure sustainable rice production? This paper examines these issues by drawing experiences from several countries across West Africa. The overall objective is to provide appropriate policy framework for the expansion and sustainable production of rice to new areas in Africa. Specifically, the paper examines some of the policies pursued in the past in a number of countries and the reasons for their ineffectiveness. Drawing on the benefits of past experiences, the paper makes proposals for improved policy environment to support the new initiatives to increase rice output in the continent.

Key Words: Green revolution, *Oryza sativa*, West Africa

RÉSUMÉ

Il y a un consensus que le développement de l'Afrique est confronté par plusieurs défis, qui incluent la pauvreté et de chômage répandus, satisfaction en besoins alimentaires fondamentales pour les gens, contenir la pandémie de VIH/SIDA, éliminer les disparités de sexe et garantir la gestion durable de ressources naturelles. Pour surmonter le problème de l'offre alimentaire, les politiques d'investissement se sont focalisées sur les certaines denrées. Le riz (*Oryza sativa*) a été au centre d'attention de politique particulière dans l'Afrique de l'ouest depuis les années 70, suivant la formation d'Association de Développement de Riz d'Afrique de l'ouest (WARDA). Bien que les investissements substantiels et actions de politique ont été entrepris, les résultats contredisent les efforts faits et espérances soignées. L'Afrique dépend toujours des importations à une échelle incroyables de riz et les productions de riz domestiques ont été principalement infructueuses. La question est: Qu'est ce qui n'a pas allé? Pourquoi l'Afrique a-t-elle été incapable de produire assez de riz aux importations de tige? Pourquoi les investissements initiaux dans les arrangements et les programmes d'irrigation échouent ? Maintenant cette attention est sur la culture de riz grandissant aux autres parties d'Afrique, quelle politique impérative est-il essentiel pour garantir une production durable du riz ? Cet article examine ces problèmes en s'inspirant des expériences de plusieurs pays à travers l'Afrique de l'Ouest. L'objectif général est de fournir le cadre de politique

approprié pour l'expansion de riz aux nouveaux secteurs en Afrique et pour la production durable dans ces nouveaux secteurs. En particulier, cet article examine certaines politiques poursuivies dans le passé par un nombre de pays et les raisons pour leur inefficacité. En s'inspirant des bonnes expériences passées, cet articles fait des propositions pour améliorer l'environnement de politique pour soutenir les nouvelles initiatives d'augmenter la production de riz sur le continent.

Mots Clés: La révolution verte, *Oryza sativa*, l'Afrique de l'Ouest

INTRODUCTION

There is a consensus that Africa's development confronts several challenges, which include alleviating widespread poverty and unemployment, providing basic foods for the people, containing the HIV/AIDS pandemic, eliminating gender disparities and ensuring sustainable management of natural resources. Most of these problems are largely contemporary as they did not constitute any concern for the African leaders at independence (UNEP, 2005). Food which today occupies a position of grave concern was initially treated with benign neglect as it failed to attract attention in the various schemes and programmes designed to initiate a rapid transformation of the economy and society in each country (Onyenweaku, 1980). However, it soon dawned on the leaders that food could be taken for granted only at the peril of national development. Certain events brought this reality home more poignantly, as we summarize below:

- The unprecedented OPEC threefold price increases on crude petroleum in the early 1970s led to increased general price levels worldwide and inevitably damaged the already fragile economies of the developing countries including those in Africa (World Bank, 1986). What this meant was that existing and prospective farm investors faced a high cost production profile, while the prospect of maximizing profits or earning remunerative income was dimmed.

- There was a severe environmental problem, the Sahelian drought of 1974, which adversely affected agricultural production in most of West Africa. Agricultural production was particularly more precarious in countries located along the fringes of the Sahel, countries like Senegal, Mali, Burkina Faso, Niger and Chad. The repercussion was that water shortages impaired irrigated and lowland rice cultivation.

- Areas were expressing strong demand for exotic food items including imported rice which was found more palatable and more easily handled than the more common coarse grains. This necessitated increased importation of various food items, particularly dairy products and rice from the international market.

What perhaps compounded the situation was the initial policy orientation of all the emerging independent countries in Africa. This was the adoption of import substitution as strategy for economic development. The strategy attempted to replace imports with local production with the purpose of conserving foreign exchange and developing local entrepreneurial capacity (Randolph and Edwin, 1995). Good intentioned it certainly was, but the strategy was formulated wrongly around the development of an urban industrial production base. It was not surprising that the strategy sooner rather than later engendered overvalued exchange rates, inefficient price controls, protectionist measures, high taxes and a variety of subsidies, all of which had negative impact on agriculture. There was also a pervading illusion that because these countries are resource-surplus, they automatically have comparative advantage. Unsubstantiated claims were, therefore, being made about the ability of African countries to produce at a competitive cost level. Having perceived the food problem as capable of upturning the development efforts in general, African countries decided to focus deserved attention on food production with the sole objective of achieving self -sufficiency in

basic commodities and in the process stem the huge outflow of scarce foreign reserves being expended on food imports (Randolph, 1997).

The demand for rice *(Oryza sativa)* in sub-Saharan Africa in general is growing much faster than for any other grain with both the rich and the urban poor relying on it as a major source of calories (WARDA, 2003; 2004). Its production and consumption have generally increased over the years, from a status of mere occasional meal to being a major staple. The Food and Agricultural Organisation of the United Nations (FAO) submitted that the substitution of rice for coarse grains and traditional roots and tubers has fueled growth in demand at an annual rate of about 5%. Urbanisation and changes in employment patterns and life style are critical in consumer behaviour patterns which seeks for more rice than any other food grain. The preferential behaviour of consumers has meant that social stability may be impaired were rice to become suddenly unavailable or unaffordable. What is generally clear is that rice availability and rice prices impact directly on the welfare of the poorest West African consumers who are the least food secure in the region. Because consumption runs ahead of local production, imports have become inevitable and occur at annual growth rate of about 8%. In the early 1990s West Africa was importing rice to the tune of about 2.6 million metric tons annually, representing an estimated $750 million in scarce foreign exchange being taken away from the region. Since the beginning of the new millennium imports have further soared, with the FAO predicting that as much as 4 million tons of rice may be imported annually into the region.

Against the above situation, it is not surprising that production of rice from local efforts has preoccupied policy makers in the region for many years. This is more so because of the suitability of most of the agro-ecological and climatic regions of West Africa for rice cultivation. Indeed, the establishment of the West Africa Rice Development Association (WARDA) in the early 1970s was to encourage research and development efforts for increased rice productivity in the region. However, in spite of several rice-targeted integrated agricultural programmes initiated in the countries, rice production in the region is far from reaching the self-sufficiency level that is envisaged and planned. The situation has provoked numerous socio-economic investigations and assessments with the hope of identifying the key problem areas that need to be addressed. Often-times, the policy environment is blamed for most of the problems in the rice sector. It was even insinuated that the peoples of West Africa have become slaves to a commodity in which the region does not have comparative advantage in producing. What is certain is that in spite of policy actions of governments in the region since the early 1970s self-sufficiency in rice is far from being achieved by virtually all the countries. The questions are: What went wrong? Why has West Africa been unable to produce enough rice to stem imports? Why did the initial investments in irrigation schemes and programmes fail? Now that attention is on expanding rice to other parts of Africa, what policy imperatives are essential to promote and ensure sustainable rice production?

This paper examines these issues by drawing on experience from several countries across West Africa. The overall objective is to provide appropriate policy framework for the expansion of rice to new areas in Africa and to make production in such new areas sustainable.

CONCEPTUAL FRAMEWORK

The primary goal of economic policies is to achieve a balanced, self-reliant and dynamic economy. In West Africa, considerable expectation is nursed that the agricultural sector will provide the platform for the take-off of the economy. Invariably governments have intervened in the sector through policy initiatives, strategies and programmes to raise the capacity of agriculture to help in the achievement of the goal of a balanced, prosperous, non-inflationary and progressive economy. In most governments agricultural policy entails a goal-driven strategic planning designed to address agriculture-related problems. Thus, the key sector policies indicate the path along which public conduct in agriculture will be pursued. The policies are targeted at achieving peace and harmony in the society, promoting security and general well-being of the people through alleviation of hunger,

malnutrition, ill-health and poverty. Agricultural policy implies roles, procedures, programmes, institutions and budgets in pursuant of specific courses of action.

Policy pronouncement or enactment is generally targeted at macro, micro or sector-specific purposes and it is used for four inter-related purposes:

- Policies are used to chart a path for development actions; this tends to make public officials follow laid-down rules and procedures rather than their own fancy and preconceived notions;
- Policies establish entitlements and the goals that are to be achieved; they make things clear and remove ambiguity on the part of decision makers;
- Policies provide a mechanism for the public, the decision makers and implementing agencies to articulate a course of action and organize society's scarce resources to achieve public good; and
- Policies allow decision makers to establish preferences and organize programmes in line with available resources.

The framework for looking at rice policy in West Africa may involve an examination of the various objectives for rice production in the region, the constraints facing the achievement of the objectives, and the appropriateness of the various policies enunciated to accelerate rice development in the region. With respect to the objectives, the member-countries of WARDA nurse the **attainment of self-sufficiency** as part of the broader goal of self-sufficiency in staple food commodities. The case for the domestic development of rice is attributed to the enormous foreign exchange being expended in importation of the commodity. If foreign exchange is saved and sufficient rice is produced internally attention could then shift to other commodities or sectors of the economy which require investments. Production of rice is targeted at **generating income for the farmers**. It is known that the majority of farmers produce rice mainly for the market and not as a subsistence enterprise. Indeed, farmers who could not produce the traditional cash crops like cocoa, coffee, palm produce, or cotton find solace in the production of rice as a cash crop. A third objective derivable from the income objective is the **equitable distribution of income** with a view to ensuring general welfare of all categories of farmers.

Arising from the determination of governments in West Africa to promote accelerated development of the rice sector, a range of policy measures were instituted to pursue this goal. The policies may be categorised into three broad groups including, trade-related policies, price and marketing policies and investment policies. *Trade policy measures* adopted at various times included restrictions (in form of duties or quantitative controls), port charges, subsidy on imports, taxes and trade levies and other measures. The trade policies caused the domestic prices of rice to diverge from international prices. In most of the countries government intervention in the trade sector attempted to restrict imports in order to raise domestic prices and through this process ensure that farmers earn remunerative income from rice.

Production/Input policies either in the form of taxes or subsidies affect prices of inputs used in rice production and, therefore, the production costs as well as the price of output. Inputs which enjoyed substantial subsidies included fertilisers, improved seeds, herbicides, pesticides, agricultural machinery and equipment. Also, farming services such as land clearing, irrigation, farm credit and extension services were covered by the general regime of subsidy support.

Investment policies are in the form of subsidized capital creation in production, milling, marketing and supporting infrastructure. Investment policies produce similar effects to those of input subsidies, although their effects are for longer periods and tend to augment other resources.

COUNTRY-LEVEL RICE POLICIES

The purpose of this section is to have a broad view of the policies pursued by a number of West African countries which have had extensive and deep experience in rice production for many years. It is appropriate to delineate the time perspective of policy review into two periods, before and after

the implementation of economic policy measures termed structural adjustment programme (SAP). This is necessary because SAP invariably was instituted to correct some of the anomalies imposed on the economy and the production sector by the very nature of policies pursued by the national governments in the decade following independence. The selection of the countries is not systematic but decided purely on availability of pertinent information for the analysis. Thus, for the review of pre-SAP situation, Cote d'Ivoire, Mali, Nigeria and Senegal are selected while the post-SAP review covers more countries.

PRE-SAP RICE POLICIES

Cote d'Ivoire. Cote d'Ivoire is essentially a successful agricultural country, always touted as an African success story in agricultural development, that is, until the beginning of the present debacle. The country was said to be self-sufficient in rice in the 1970s (Humphreys, 1981). The growth rate of rice output per *annum* was about 5 per cent, promoted by government policies which engendered supplies of improved inputs, fertilisers, irrigation and mechanised techniques. Rice was the only staple food crop for which Cote d'Ivoire established a state development company during the period. The country emphasised four types of policies prior to undergoing SAP (Commander, 1989). These were research, institutional, investment and pricing. The research policies focused on using technological improvements to stimulate increased output of rice. Taiwanese technical experts were on hand to assist initiate viable small-scale irrigation schemes and extension programmes. Improved seeds obtained from India and Philippines were introduced and research helped to identify profitable production systems and methods of development.

Institutional policies were tailored towards effective input delivery and marketing of output. SODERIZ initiated a contract system for the supply of modern inputs such that the farmers made payments in cash or paddy at the time of harvests. A large array of inputs and services was greatly subsidized, inputs and services such as treated seeds, fertilisers, insecticides, equipment, land development, extension services, maintenance of irrigation works and mechanisation were provided at a fraction of the actual costs.

Investment policy took the form of long-term capital development of irrigation projects in the savannah zone to the north of the country as well as the establishment of industrial-scale rice mills. However, the development of irrigated lands was below target, as only half of the area planned was covered.

Trade and domestic price policies were geared towards ensuring fair prices for local rice producers and insulating producers and consumers from divergent prices. But this was difficult to sustain following fourfold increases in world rice prices in the mid-1970s. There was an inevitable corresponding upswing in domestic prices which depressed demand dramatically such that there were gluts in the market as a result of previous imports that now could not be sold.

Senegal. Senegal is more famous for groundnut production and export. During the 1970s, the country was a net importer of rice, consumed mainly in Dakar (Randolph and Toure, 1995). Domestic rice production comes mainly from the Casamance region. The Senegalese government had made efforts to stabilize consumer prices by adopting an official price for rice. The official price was defended with large quantities of imports. Later rice policy was tuned towards expanding domestic production under more secure water control systems. The policy was supported with extension activities, public investments in irrigation projects, and input subsidies. That is Senegal had no comparative advantage in rice production except when it adopted animal traction technique in production.

Mali. The Malian state embarked on socialist transformation of the economy and society in the first decade of independence, 1960-1968. Mali actually elected to pursue a Marxist system of planning and, in effect, pursued policies of nationalization, establishment of state industries and commercial enterprises, and significant public investments in transportation. The government set up producer and consumer cooperatives, outlawed private commerce and established a group of state monopolies. The main

objective of Malian agricultural policy at the time was to supply cheap cereals to the urban population in order to hold down wages and to increase exports. Government original policy was to set up collective fields in the villages with the hope that the scheme would make agriculture more productive. Other policy instruments were a system of fixed producer prices, fixed consumer prices and the establishment of state agencies – Office des Products Agricoles du Mali (OPAM), with legal monopoly on cereals trade and the Societe Malienne d'Importation et d'Exportation (SOMIEX), which had legal monopoly on the marketing of export crops.

Over the years the Malian rice policy has been to achieve self-sufficiency and improve security of food supplies. Other objectives are to improve rural incomes and raise the nutritional standard of the population. The main goal of the first Malian government, that is, to control the production and marketing of cereals in order to maintain low prices, was stepped down by the military government that took over power in 1968. The central instruments of policy then became technical improvement and investment in rice production in the Office du Niger and in the two main rice projects at Segou and Mopti.

Results of a major study show that the Malian rice sector had a strong comparative advantage in the production of the commodity arising from low labour and irrigation costs, fairly high paddy yield and efficient milling (McIntire, 1981). Efficient techniques were adopted by farmers because the techniques were more privately profitable than traditional rice production techniques. The supply response of farmers enabled the Malian government to achieve most of the objectives of its rice policy, especially the objectives to supply cheap rice to its urban populations.

Nigeria. Nigeria produces as much rice as the rest of West Africa and imports as much as the rest of the region. Although the per *capita* consumption trails are below that of the sub-region (29 kg per *capita* per *annum* as against 35 kg per caput per annum), Nigeria is experiencing a very rapid consumption profile in rice with some 5 million metric tons being required on an annual basis presently to meet increasing demand. Since the mid-1970s domestic production has increased annually at 10%, mostly by extensification.

Prior to reforms the Nigerian rice sector showed certain characteristics, namely:

- fecundity of importation was pre-eminent and unrestricted as to the sources or quality;
- government was directly involved in distribution and marketing of imported rice and , strangely, was absorbing the associated marketing costs;
- urban consumers were becoming increasingly tuned towards consuming more rice than ever before, as a result of significant drop in domestic prices and the ease of preparation as compared with local coarse grains; and
- rice producers enjoyed some subsidy on inputs but this was not sufficient to offset the depression in output prices because of cheap imports.

Rice imports became a sore point in the early 1980s as a result of general economic depression of the Nigerian economy and surfeit of foreign exchange to sustain imports. Consequently, a total ban on importation came into effect in 1985 and lasted till 1995. In specific terms, Nigeria during this period employed several trade policy measures in the rice sector with the hope of raising domestic production in order to stem imports. Trade policy measures adopted included tariffs, restrictions and outright bans. In the 1970s and early 1980s, huge petroleum earnings coupled with an overvalued exchange rate, facilitated cheap imports which eroded the competitiveness of local producers. With the ban on imports in 1985, there was some incentive for farmers to increase output but because locally-produced rice was of such poor quality, there was no significant demand for local rice. In point of fact, illegal imports boomed.

Performance of the rice economy during pre-SAP era. What is obvious is that the policies pursued in the early period of independence in most rice-producing West African countries failed

to achieve the objectives of the various governments. While the results of policies were inevitable given the rather late attention paid to the food sector, it was also clear that both the objectives and the policies pursued were conflicting. Providing cheap food for consumers and remunerative income for producers could not be achieved given the poor management and execution of rice projects in most of the countries. High productivity could not be assured resulting in low rate of return of large-scale irrigation investments against expectation and plans. The policies failed to establish comparative advantage in rice production in most of the countries (see Table 1), tasking the wisdom of investing in rice when other crops were showing better performance.

The performance of the rice sector could not be divorced from that of the entire agricultural sector, which actually showed a depressed state as a result of overvalued exchange rates of the era and the policies of accumulation of governments which taxed agriculture to generate development funds for the entire economy. Investments in agriculture were also a fraction of the overall annual budgets in most of the countries. Indeed, the entire national economy was performing badly with huge debt, high rate of inflation, stagnant growth, high unemployment, instability in current accounts and a generally depressed economy. The economic and social conditions were poor, which thus made structural adjustment inevitable as a strategy to fix the economy.

POST-SAP RICE POLICIES

In the 1980s and early 1990s governments in West Africa initiated macro-economic stabilization and structural adjustment programmes to reinvigorate their stagnant economies. The policy measures under SAP emphasized the role of the market in shaping economic development. What SAP did was to eliminate state intervention in most economic activities, and replace the state with private sector. A battery of fiscal, monetary, wage and incomes policies as well as trade and exchange rate measures was introduced in most of the countries that accepted adjustment loans.

The economic re-structuring affected the rice sector in West Africa in a fundamental way, initiating major reforms in the sector by redefining its structure and policy environment. In the mid-1990s WARDA evaluated the impact of the programme in several countries including Cameroon, Mali, Mauritania, Niger, Nigeria and Senegal. The group of studies confirmed that reforms in the Sahelian and humid countries were very extensive as they reduced the role of state agencies in producing and purchasing paddy, marketing rice and determining prices. The reforms substantially increased private sector participation at each level of the domestic rice marketing chain. Although changes had been less dramatic in input and imported rice markets, SAP significantly reduced producer incentives, left consumer incomes unchanged and reduced call on the national budgets. There was improvement in competitiveness of local rice in relation to imported rice and there was enhanced self-sufficiency. The general changes observed in selected indicators of performance, before and after the implementation of SAP policy measures, in six West African countries are as summarized in Table 2.

WHY RICE POLICIES IN AFRICA ACHIEVED LITTLE SUCCESS

It is obvious from the analysis above that rice policies in Africa have generally failed to secure self-sufficiency, remunerative income, employment and general welfare improvements in the lives of rice producers. Although governments in West Africa have injected considerable resources towards increasing rice production, the result, however, is that no single country in the region could be said to be self-sufficient and food secure in rice. Although Mali is said to have achieved self-sufficiency level, the country has not depicted any features of a country about to enter international or regional trade in rice. The challenges of quality attributes of Malian rice, packaging, storage capacity to meet supply-demand flows as well as other trade logistics including transportation indicate that Mali is not yet ready to engage in rice trade. The country nevertheless has demonstrated the

TABLE 1. Indicators of competitiveness for rice production in West Africa, 1981

Rice commodity system by country	DRC Indicator
Traditional manual upland	
Ivory Coast forest	1.43
savannah	1.26
Liberia	1.78
Sierra Leone north	0.87
south	1.09
Improved manual upland	
Ivory Coast forest	1.43
savannah	1.53
Liberia	1.99
Sierra Leone south	0.82
North	1.13
Animal traction upland	
Ivory Coast savannah	1.41
Senegal (Casamance)	1.04
Mechanised upland	
Ivory Coast savannah	1.67
Traditional manual swamp	
Liberia	1.48
Mali	0.72
Sierra Leone	0.69
	0.9
Improved manual swamp	
Ivory Coast forest	1.75
Savannah	1.65
Liberia	1.44
Senegal (Casamance)	1.26
Sierra Leone south	0.82
North	0.94
Improved manual mangrove	
Sierra Leone south	0.74
north	0.98

TABLE 1. Contd.

Rice commodity system by country	DRC Indicator
Animal traction swamp	
Mali	0.65
Partially mechanized swamp	
Ivory Coast forest	1.61
Liberia	1.69
Improved manual uncontrolled flooding	
Sierra Leone bolilands	0.72
Animal traction uncontrolled flooding	
Mali	0.99
Mechanized uncontrolled flooding	
Sierra Leone bolilands	1.01
Animal traction controlled flooding	
Mali	0.74
Improved animal traction controlled flooding	
Mali	0.59
Improved animal traction irrigated single crop	
Mali	0.59
Mechanized irrigated multiple crop	
Senegal Fleuve	2.35
Ivory Coast	2.99
Manual irrigated multiple crop	
Ivory Coast savannah	1.74
Senegal Fleuve	1.41

Source: Pearson *et al*. (1981)

capacity and capability of producing at self-sufficiency level on a sustainable basis. Other countries are perpetually producing barely half of their requirements and are therefore major actors in the international rice market as importers. Some explanations can be offered for the slow pace of rice production in Africa.

(a) There was misplaced priority arising from initial contradictions witnessed at independence when the new leaders adopted an import substitution industrial strategy without laying the new strategy upon local agricultural raw materials in which the continent has comparative advantage. This caused unnecessary imports at the expense of locally available raw materials. Curiously little attention was paid to the food sector on the wrong notion that food was available and would continue to be available. But the Sahelian drought, internecine wars and political dislocations soon disrupted

TABLE 2. Indicators of competitiveness of rice production systems in West Africa after SAP

Country and year of study	Rice commodity system	DRC indicator
Sierra Leone – 1995	Upland traditional, hand pounded, self consumption	0.53
	Inland valley traditional, hand pounded, self consumption	0.52
	Inland valley, dehuller, local market	0.89
	Mangrove traditional, hand pounded, local market	0.27
Niger - 1995	Irrigated private, high input, dehuller, national market	0.91
	Irrigated public, high input, dehuller, self consumption	0.38
	Irrigated public, high input, dehuller, national market	0.57
	Irrigated public, high input, industrial mill, national market	0.73
Senegal - 1996	Inland valley swamp, traditional, hand pounding, self consumption	1.11
	Inland valley swamp, traditional, huller, self consumption	0.85
	Irrigated public, direct seeding, mechanized harvesting, dehuller, national market	1.34
	Irrigated private, direct seeding, mechanized harvesting, dehuller, national market	1.01
	Irrigated private, direct seeding, mechanized harvesting, rice mill, national market	1.04
	Irrigated private, direct seeding, mechanized harvesting, industrial mill, national market	1.28
	Irrigated public, transplanting, dehuller, national market	1.52
	Irrigated private, direct seeding, dehuller, local market	0.93
	Irrigated private, direct seeding, industrial mill, national market	1.02

Source: Randolph and Edwin (1995); Randolph and Toure (1995); Randolph (1997)

agricultural production with dire consequences on food supplies such that several countries in the Sahel region had to depend on significant food imports and food aid. What this implies was that rice programmes suffered from the lack of adequate attention which was the bane of food crops in general.

(b) Associated with the above factor were the frequent changes in government as a result of military coups across the continent. The result of these changes had been changes in emphasis and focus on the appropriate strategies to feed the people. In Mali, for instance, the leaders of the military junta that came into power in 1968 came with new policies, orientation and programmes for the rice sector which de-emphasised the objective of making rice available at low prices for the urban population. In other countries the changes in policy direction had created lags in the implementation of development programmes.

(c) There was no optimal policy mix. The price as well as trade policies pursued were not capable of effecting the desired changes in the rice sector. The policies were frequently being changed, even within the year as shown in the case of Nigeria. This instability in policy environment could not but create an unstable investment environment for producers and other stakeholders hoping to explore the opportunities in the rice sector.

(d) In all the countries women are important stakeholders in rice production, processing and marketing. But technological adaptations and practices fail to pay sufficient attention to the needs of women folk who perform most tasks on the rice farm. Gender insensitiveness in technology development obstructs efficiency and performance. Men tend to receive more attention even though their activities on rice farms are not as elaborate as those of women.

(e) The poor quality of local rice prevents sufficient consumer demand which could serve as a reason for increased production by the farmer. While the discriminatory consumer behaviour is quality induced, there is little price differential between local and imported rice to warrant consumers sacrificing quality for the price incentive. The transaction costs associated with local rice are substantial because producing areas are different from consuming centres.

(f) The reliance on exotic technology (fertilisers, herbicides and pesticides) has contributed to low output of rice in Africa. None of the West African rice-producing countries has sufficient capacity to manufacture its requirement of chemical inputs nor to import and distribute enough quantities of these inputs. Associated problems concerning inputs are the high prices and transaction costs since these inputs are found only in designated areas in urban locations which farmers have to visit to make purchases.

(g) Lack of sufficient quantities of improved seed rice to meet the planting needs of farmers across various ecologies. This made a large proportion of rice farmers to depended on the traditional varieties which are of low yield.

(h) The high demand for labour by rice activities as compared with other staple crops which farmers also cultivate, even at more lucrative returns tends to discourage farmers from expanding their rice holdings.

PROSPECTS OF AFRICAN RICE INITIATIVE

The African Rice Initiative is conceived as an Africa-wide rice development plan, deriving its strength from research that must be anchored on the Comprehensive Africa Agriculture Development Programme (CAADP) of the New Partnership for Africa's Development (NEPAD). That is, rice development in the continent must reflect the goals of national and continental development objectives of poverty eradication, food security, and prosperous African economy and society. These are clearly set out in the NEPAD programme and are also embodied in the Millennium Development Goals (MDGs). While national programmes are necessary, regional programmes and scaling up may move the continent much faster in achieving the goals of rice production in Africa. Thus, possibilities of joint projects must be explored within the general framework of achieving efficiency in resource application. Regional cooperation would be particularly important in providing support and investment for water sector development, infrastructure and access to crucial yield-supporting inputs.

West Africa's experience is symptomatic of the challenges Africa as a whole may face in expanding rice cultivation. Some of these challenges are discussed as follows:

High production costs. Current production costs are high and do not make countries competitive in relation to imported rice. The challenge would be to reduce costs in ways that make rice production not only economically competitive but also socially profitable. If this cannot be achieved, then it makes economic sense to import rice. However, the employment effects of local rice production should not be lost on decision makers and planners. Both the upstream and downstream activities of rice production are labour demanding and should create job opportunities for young school leavers and other providers of labour. But labour costs are high and account for nearly 80% of farm costs across production ecologies. Technology transfer has been generally slow and ineffective and access to inputs and services is constrained. Yields are low because of additional problems posed by iron toxicity, drought, flooding and a pervading infestation of pests and diseases.

Poor rice quality. To a large extent the rice produced in West Africa is of poor quality as a result of several factors, including mixing of varieties, inadequate processing, presence of foreign bodies in supposedly clean rice, and broken grains. The problem of quality arises as a result of many actors in the rice production chain.

TABLE 3. Changes in selected indicators before and after reforms of the rice sector

Indicator	Senegal	Mali	Niger	Mauritania	Nigeria	Cameroon
First structural adjustment programme initiated	1980	1982	1983	1985	1986	1988
Reforms in rice sector initiated	1985	1985	1984	1989	1987	1989
Total change in liberalisation score	3.4	4.6	2.5	6.2	1.3	3.0
Annual growth in domestic rice production						
Pre-SAP (%)	10	-24	21	18	7	9
Post-SAP (%)	5	19	5	-2	15	-4
Real producer paddy price (LCU kg^{-1})						
Pre-SAP	72	52	69	19	1.5	93
Post-SAP	83	67	76	16	1.5	46
Real fertiliser price (LCU kg^{-1} urea)						
Pre-SAP	56	109	45	20	0.4	50
Post-SAP	90	131	54	21	0.5	9
Ratio of paddy price to fertilizer price						
Pre-SAP	1.5	0.5	1.6	1.0	7.5	1.8
Post-SAP	1.0	0.5	1.4	0.7	3.2	1.0
Real consumer rice price (LCU kg^{-1})						
Pre-SAP	150	172	139	26	1.7	212
Post-SAP	142	181	155	28	2.2	133
Annual growth in per capita rice consumption						
Pre-SAP (%)	1	13	11	9	-2	7
Post-SAP (%)	0	0	2	-4	-6	9
Annual growth in rice imports						
Pre-SAP (%)	2	31	-8	7	-10	17
Post-SAP (%)	2	10	6	2	5	6
Self-sufficiency ratio for rice (domestic production divided by consumption)						
Pre-SAP (%)	18	63	46	21	67	45
Post-SAP (%)	23	76	50	32	94	58
Government budget (+ = reduced burden)	+	+	+	+	-	+

Source: Randolf (1993); WARDA Annual Report (1993)

Most of the actors are willing to accept the lapses because there is no mechanism to transfer rewards to quality at every stage of production. New and old areas in Africa where rice production is expected to increase would be advised to pay sufficient attention to quality so as to secure consumer confidence and demand for local rice.

Policy instability and uncertain market environment. Rice is now a structural component of African diet. But past policies were unsure that the rice profile would rise as high as it is today. The food security role of rice was not as emphasised as currently, the challenge being simply to make rice available to urban elites. This

limited the scope of the policy framework. But much more, policies were poorly executed or not executed at all. As a result policies failed to secure a significant market share for local rice producers and thereby created opportunities for imported rice to permeate and dominate the market. Instability in policy creates an uncertain market environment and serves as a disincentive to producers.

CONCLUSIONS

Rice has become a growth commodity in most of West Africa and the demand for the crop is rising faster than that of any food staple in the region. Rice consumption and development is extending to all other parts of Africa as a deliberate state policy. This calls for a comprehensive policy response. While rethinking the role of governments, it must first be realised that the individual governments still have a major role to play in shaping the direction of rice development in the continent. African governments must come up with an optimal mix of policies which will promote productivity, efficiency in resource allocation and increased output. The issue of subsidy is not whether to give or not give but to determine in what particular instances is subsidy necessary, in what form and at what level. Unless the incentive structure is right, the farmers may be tempted to consider alternative and more profitable crops. The reality today is that the African farmer has become much poorer than he was at independence. He therefore deserves significant support in his effort to supply sufficient food, promote food security and reduce poverty.

Partnerships must be developed with major stakeholders in the rice sector. The NGOs, CBOs and other groups, including agrochemical firms, have specific roles to play. These must be mobilized to aid the development of rice in the continent. In this respect, the Africa Rice Centre should be at the vanguard of the new initiative given its centrality to the rice development and research in the continent. The centre has all it takes to play the major role and establish an orderly, knowledge-based, progressive and sustainable rice production in Africa.

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