

Neoliberal Policy, Rural Livelihoods and Urban Food Security in West Africa: A Comparative Study of The Gambia, Côte d'Ivoire and Mali*

William G. Moseley

Macalester College, Dept. of Geography, 1600 Grand Ave, Saint Paul, MN 55105. Tel: 651-696-6126. Fax: 651-696-6116. Email: moseley@macalester.edu

Judith Carney

University of California at Los Angeles, Dept. of Geography, 1255 Bunche Hall, Box 951524, Los Angeles, CA 90095.

Laurence Becker

Oregon State University, Dept. of Geosciences, 104 Wilkinson Hall, Corvallis, OR 97331-5506.

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Abstract

This study examines the impact of two decades of neoliberal policy reform, which began in the early to mid 1980s, on food production and household livelihood security in three West African countries (The Gambia, Côte d'Ivoire and Mali). The rice sectors in The Gambia, Côte d'Ivoire and Mali are scrutinized as well as cotton and its relationship to sorghum production in southern Mali. While market reforms were intended to improve food production and availability, the net result was an increasing reliance on imported rice. The vulnerability of the urban populations in The Gambia and Côte d'Ivoire became especially clear during the 2007-2008 global food crisis when world prices for rice spiked. Urban Mali was spared the worst of this crisis as the country produces more of its own rice and the poorest consumers shifted from rice to sorghum, a grain whose production increased steeply as cotton production collapsed in the wake of lower prices and a cotton strike. The findings are based on household and market surveys as well as an analysis of national level production data.

Keywords: food security, livelihood security, neoliberal policy reform, West Africa.

A variety of forces converged to drive a steady increase in global food prices between 2000 and 2008, with prices rising almost 50% between April 2007 and March 2008 (1). Rising food prices are problematic for many, especially the urban poor who spend a disproportionate amount of their income on food stuffs. High food prices in 2007 and 2008 touched off food riots around the world, with urban West Africa arguably suffering more of these disturbances than any other world region (2).

Many cities in West Africa became ever more dependent on imported rice from Asia over the past three decades. Increasing rice imports into urban West Africa were facilitated by the availability of inexpensive Asian rice and declining tariff barriers. Several Southeast Asian nations (e.g., Thailand, Vietnam) became major rice exporters in the 1970s following the first Green Revolution and significant investments in irrigation infrastructure. These new exporters, along with increasingly subsidized production of American farmers, flooded global markets with rice, leading to two decades of low and relatively stable rice prices (3). Concurrent with these

changes in global rice production were a series of policy changes which opened up West African markets to increasing rice imports and undercut local production in many cases. These changes were part of a broader shift in the global policy environment towards neoliberal economics following the Third World Debt Crisis of the late 1970s. The World Bank's "Berg Report" in 1981 stressed rolling back state involvement in development in African countries and giving wider responsibilities to the private sector (4). The neoliberal economic policy agenda, which largely argued for unfettered markets as the best approach to promote growth and prosperity, specifically took the form of structural adjustment programs (SAPs) in many West African countries. In general, SAP reforms in West Africa involved a contraction of government services, a renewed export orientation on crops or goods deemed to have a comparative advantage, the privatization of some parastatals, a removal or reduction of many subsidies and tariffs, and currency devaluations in some cases.

The urban demand for rice grew throughout West Africa from the 1970s. In many cases, it represented a shift away from the consumption of coarse grains (millet, sorghum and maize), and cassava, yam or plantain banana in the humid south, in response to urbanization and consumer preference for milled rice because its preparation is labor saving (2, 5). The region's increasing dependence on the global rice market for domestic cereal supplies means that imports now supply more than 40% of the cereal's demand in West Africa. The resulting increase in rice imports, however, left urban West Africa increasingly vulnerable to fluctuating global rice prices. Indeed, global rice prices increased more dramatically than other grains in 2007-2008, rising by 100% between February 2007 and March 2008 (1). Importing countries faced serious

political and economic questions as some of their citizens saw their ability to purchase food collapse.

This paper examines three countries (The Gambia, Côte d'Ivoire and Mali) selected because of the varying importance of rice in their national diets and different levels of dependency on imported rice (Table 1). The study takes a long term view, seeking to understand the policies and programs enacted since the early 1960s that led to the acute food problems experienced in urban Gambia and Côte d'Ivoire in 2007-2008. The paper then compares these two cases to Mali where average food prices in the capital city Bamako were above the five year average in 2008, yet the situation never became as severe as in The Gambia or Côte d'Ivoire. More specifically, the study seeks to answer two questions. 1) What accounts for the shifting mix of imported versus local grains consumed by urban dwellers in Banjul, Abidjan and Bamako? 2) Given international price trends, what are the implications of the current mix of domestic and imported food supplies for urban food security and rural livelihoods in The Gambia, Côte d'Ivoire and Mali? The paper's findings are related to on-going policy debates about the form and necessity of a New Green Revolution for Africa. The rice sectors in The Gambia, Côte d'Ivoire and Mali are scrutinized as well as cotton and its relationship to sorghum production in southern Mali. The study's findings are based on household and market surveys as well as an analysis of national level production data. The specific character of the local level data varies from country to country.

Insert Table 1

Gambia Case Study

The Gambia is a low-income West African country, where agriculture is practiced by two-thirds of its citizens. Peanuts are the primary export crop with rice, millet, and sorghum traditionally planted for food. Over the second half of the twentieth century The Gambia grew increasingly dependent on rice as the nation's dietary staple, but the country's farmers proved unable to improve their market share of the burgeoning urban demand for rice. Their capacity was undermined with the implementation of economic reforms in the mid-1980s, which removed producer subsidies in favor of market-based solutions and cheap imports. As a consequence, domestic rice production stagnated while milled imports climbed. The 2007-2008 world food crisis laid bare The Gambia's vulnerability to global rice markets. In a nation where the per capita income hovers around \$1 a day, the price of rice had doubled. As its purchase became increasingly unaffordable, the government intervened to stabilize the cost of the nation's dietary staple.

This section examines the policy shifts of the final decades of the twentieth century that adversely affected Gambian rice farmers. It draws upon national data sources and repeated periods of fieldwork between 1983 and 2004. Rice policies of the post-independence era can be divided into two distinct periods: 1) 1966-1984, which emphasized the Gambian rice sector, followed by 2) the current period, which favors rice imports.

1966-1984: Gambian Irrigated Rice Development. Between 1966 and 1984, international development assistance sponsored pump-irrigation rice projects on the Gambia River's abundant alluvial swamps. The objective was to modernize production of a prominent dietary staple. The

introduction of Green Revolution Asian varieties (*Oryza sativa*) replaced the indigenous African rice (*O. glaberrima*) that had been grown in the region for millennia. The projects aimed to shift rice from seasonal to year-round cultivation, thereby enabling two annual harvests instead of one. One harvest was to secure household subsistence requirements while the second offered a cash crop to raise farm incomes. Double cropping would strengthen rural food reserves while generating surpluses to meet urban demand.

Of the approximately twenty thousand hectares that were planted in the mid-1960s, four thousand fertile tracts located along the Gambia River were targeted for pump irrigation (10, 11). Small-scale irrigation projects sponsored by the Taiwanese government (1966-74), the World Bank (1973-76), and mainland China (1975-79) culminated in the large-scale rice scheme funded by the International Fund for Agricultural Development in 1984 (Figure 1). Each project provided growers improved hybrid seed varieties, fertilizers, pesticides, and water deliveries at subsidized rates (12, 13).

Insert Figure 1

But irrigation, as planners consistently failed to consider, involves more than the introduction of a new technology. Projects often ran aground by ignoring socio-cultural norms that ultimately undermined the intended outcome. Rice is traditionally a woman's crop in The Gambia. Irrigated agriculture ruptures traditional farming practices by replacing seasonal cropping cycles with year-round cultivation and rigid production schedules. In the Green Revolution rice projects, men expected their wives to grow the second crop without allowing them additional benefits

(14). Women came to resent the augmented labor burden and the lack of compensation. The eruption of gender conflicts prevented the irrigation projects from reaching productivity targets. Tensions only eased over time as women were granted a share of the paddy they produced, and men began to assist in rice cultivation (15, 16).

A consistent failing of Gambian irrigated rice development was the lack of foresight and funding support for milling and marketing surplus paddy. At no point did donors prioritize construction of a mill to mechanically process the marketable paddy, even though the alternative—traditional milling (performed by women) with hand-held pestle and mortar—is a time-consuming operation. The existing mill was inconveniently located in central Gambia on the River's north bank, at some distance from the country's principal rice station. Milling necessitated trucking the paddy to a ferry crossing with irregular service and its transport to the government mill. To reach the urban coastal market required another day's journey and an additional crossing of the Gambia River. Impoverished rural growers could not manage milling and transport on their own without donor assistance, which was not considered in the planning of irrigated rice projects.

1986-Present: Market Reforms and Dependency on Imported Rice. Beginning in 1986, the International Monetary Fund imposed on the Gambian economy a series of structural adjustment programs as conditions for new loans. Economic reforms eliminated subsidized inputs and the producer support price that had encouraged the domestic rice sector. The parastatal responsible for rice purchases and inputs was dismantled while agronomists posted to rural agricultural stations were dismissed from the Department of Agriculture or reassigned to the capital as part of a broader mandate to downsize government bureaucracies and impose cost-saving measures. The

removal of protective tariffs for domestic production effectively lowered the cost of imported rice. Within a span of ten years, milled imports more than doubled while the domestic rice sector stagnated. Today, only ten percent of Gambian irrigated rice projects produce the two harvests originally conceived and most of it remains in the region where it was harvested.

However, it was the elimination of fertilizer subsidies in 1987 that dealt the harshest blow to the domestic rice sector. Gambian growers soon realized that without fertilizer, the yields of hybrid rice were no more than that of traditional varieties. The termination of the fertilizer subsidy resulted in a four-fold increase in its price by the end of the decade. Fertilizer imports that had stood at 5,500 metric tons with government subsidies in 1984 had declined to 600 metric tons by 1990. The cost of this critical input remains unaffordable to the majority of Gambia's rural farmers. In an agrarian economy, where the total area under cultivation is an estimated 285,000 hectares, the country currently imports only 800 metric tons of fertilizer per annum.

The Emergence of Two Gambias. The long-term effect of economic reforms is a disarticulated national food sector and the emergence of two Gambias. One exists along the urban seaboard, where one-third of the country's population is fed with low quality broken rice imported from Southeast Asia. The other Gambia is found in the country's interior, where rice cultivation remains significant yet fails to supply urban consumers located a few hundred kilometers away. As the preferred subsistence staple in both Gambias, rice is a national symbol of cultural identity. Yet, the country's rice farmers, who remain principally women, are unable to take advantage of the growing urban demand for the grain. This is not because their rice is costly to grow but because the transportation, marketing infrastructure, mills, and farm subsidies readily available

in many rice-exporting countries do not exist or are less developed in West African rice-growing countries. In dismantling the capacity of the state to provide agricultural services, the economic reforms contributed to disenfranchising domestic rice growers from a ready market for their output. While the market may deliver cheap imports in some years, the 2007-2008 food crisis exposed the vulnerability of West African countries that had ceded subsistence sovereignty to market reforms.

Typical of the pattern found in other West African countries, milled rice imports to The Gambia now vastly exceed the amount produced domestically. An analysis of national production data shows that the ratio of domestic production to imports shifted dramatically during the decade of the 1980s (See Figure 2). During the two decades following independence in 1965, domestic rice production had steadily increased (11). The cultivated area peaked at thirty thousand hectares, while domestic production fulfilled half the national demand. From the mid-1980s the domestic rice sector began a decline that has not reversed in a sustained way. Rice imports soared from 16,200 to 52,800 metric tons between 1983 and 1989, while domestic production fell from 33,700 to 29,500 metric tons. During this critical decade of market reform implementation, the share of domestic rice in the national market declined from fifty to just fifteen percent. Since 2000 the domestic sector's share has stagnated at about 20,000 tons of paddy. The exodus of rural youth from farming households to coastal urban centers has contributed to the country's demand for imported rice, which reached over 130,600 metric tons in 2004 (17, 18). Economic reforms have made Gambian rice growers peripheral to the nation's economy.

Insert Figure 2

When market reforms were implemented in the mid-1980s, the reliance on imported rice to meet consumer demand did not appear a potentially calamitous strategy. The world market price of rice, expressed in terms of constant 1990 US dollars per metric ton, fell from \$571 in 1980 to \$279 in 1995 (12). But the vicissitudes of international commodity markets were keenly felt in The Gambia in 2004 and again in 2008 during a period of rising consumer prices for milled imports. Between January 2003 and July 2007, the cost of a 50 kilogram bag of imported rice more than doubled, from 220 to 575 dalasis (US \$20), echoing worldwide trends in the grain's market price (19). At the height of the food crisis a year later, the cost doubled again to over US \$40. While the market price fell in 2009, a bag of rice is still \$3 more expensive than it was in 2007. In a country where rice is the predominant dietary staple, a disarticulated food sector leaves consumers vulnerable to market forces and domestic growers unable to supply their needs.

Côte d'Ivoire Case Study

Like The Gambia and Mali, Côte d'Ivoire is a low-income country where agriculture is crucial to the livelihoods of its people and to the national economy. Cocoa beans are Côte d'Ivoire's most valuable export, and together with other agricultural commodities fueled economic growth in the 1960s and 1970s. As in The Gambia, Ivorian consumers since independence in 1960 have increasingly relied on rice as the dietary staple. National surveys show that average per capita rice consumption has risen from 27 kg in 1958, to 55 kg in 1988, to 74 kg in 2006 (8, 20); urban consumption is even higher, 74 - 82 kg (21, 22). However, national policies and the neoliberal

reform priorities of international lenders made taking advantage of this growing demand difficult for Ivorian farmers.

This section reveals policy shifts since the 1980s similar to those of The Gambia having a negative impact on Ivorian rice growers and processors. Based on fieldwork in 1990-92 and 2002 plus other survey data, the Ivorian case investigates the origin of an emphasis on rice imports and questions a strategy so heavily reliant on rice. An overview of policy since the late colonial period shows that rice self-sufficiency goal has long been in conflict with a neoliberal or free market strategy.

Rice Import Substitution. Policies giving priority to rice in national development strategies date to the French colonial period (23, 24). Even before independence, a system of price stabilization, a fixed price for producers, tariffs on imports, and the first investments in irrigation contributed to an import substitution and food self sufficiency strategy (25).

At independence, the country's rice demand was met by producing approximately 100,000 tons of white rice and importing 30,000 tons (9). With creation of the state rice company (Société de Développement de la Riziculture, or SODERIZ) after independence, Côte d'Ivoire reinforced its commitment to rice as central to national food policy. SODERIZ emphasized a Green Revolution strategy, building small dams for irrigation, training farmers, providing high-yielding rice varieties, subsidized fertilizer, credit, a fixed price for paddy rice, and modern industrial mills (24, 26, 27). In 1974 SODERIZ increased the price 132% for purchasing paddy. Farmers responded with a huge harvest (28), and imports dropped to their lowest level since

independence (see Figure 3). However, due to mismanagement and inability to handle all of the rice, SODERIZ failed in 1977. Following its dissolution, SODERIZ remained for Ivorian farmers and policymakers an accomplishment of what is possible for domestic rice self-sufficiency at the same time that its ultimate collapse helped to support arguments for a neoliberal approach to national rice policy.

Insert Figure 3

Structural Adjustment and Rice Imports. By the early 1980s following two decades of economic growth, world prices for Côte d'Ivoire's exports had fallen. In 1981, Ivorian leaders responded to the economic problems by obtaining a structural adjustment loan of \$150 million from the World Bank with the conditions that it freeze government salaries, eliminate some public enterprises, and take steps to reduce the state's role in the economy (29). Over the next decade, a series of conditional loans led to reforms that greatly changed the state's relationship with rice resulting in a steep increase in imports. An economic analysis of the Ivorian rice sector specifically recommended abandoning the goal of self-sufficiency and instead paying for imports through revenue generated from crops with a comparative advantage, meaning cocoa, coffee, and cotton (28).

By the end of the 1990s, the ten industrial rice mills built by SODERIZ with an estimated annual milling capacity of 550,000 tons of paddy (30) were privatized. By 2002, none of those mills operated. Gone too were the fertilizer subsidy for irrigated rice, the state's modern seed farms, the fixed price for rice, and controls on imports. The 50% devaluation of the CFA franc in 1994

was to make local rice more competitive with imports. However, without a stable and attractive price for paddy, farmers sold little rice. Devaluation did not stimulate local production or decrease rice imports as it did in Mali (31). Before its dissolution, the state agency responsible for regulating the national rice price had a monopoly on importing rice, allowing it to control national rice supply. Privatization meant that the state's monopoly on imports shifted to a small group of private importers close to the president who could afford the import registration fee and maintain a security supply of 10,000 tons of rice (25, 32). With regulation gone, imports rose since consumers preferred the lower price and superior milling quality of imported rice (22, 25, 31).

After Liberalization: Small Mills, Big Imports. By 2002, the national rice production and processing strategy of the 1970s had been replaced by unregulated regional producer-processor networks (26). The largest of these was in the Abidjan hinterland some 90-180 kilometers north of the largest urban area (33). Others centered on the northern cities Bouaké and Korhogo, the western cities of Man and Danané, and Gagnoa and Daloa in the southwest. Each of these informal networks linked rice-growing agroecologies with urban market areas (see Figure 1).

Clearly the private sector responded to the state's retreat from the rice sector by not only dehusking paddy rice, but also providing other services to farmers once supported by the state. Micro-mills with a dehusking capacity of 2-5 tons per day and mini-mills, 6-15 tons daily, proliferated in West Africa in the 1990s following liberalization (31). In Côte d'Ivoire, merchant families experienced in local agricultural commodity trade purchased mills. In a survey of 75 micro- and mini-mills, 80% reported purchasing the equipment with credit (26). The cost of

milling depended on proximity to markets and the supply of paddy rice. The survey found that 37% of the mills provided credit, 24% owned tractors or small trucks to bring paddy from field to mill, and all dehusked and stored paddy owned by farmers and small traders (see Table 2). Mills in the more market-oriented regions supplying Abidjan and Bouaké provided more of these services. Clearly free market factors were at work, but just how much could these small milling hubs in the rice commodity chain support rice farmers and contribute to national rice supply?

Insert table 2

Gagnoa, a city of 119,000 (34) in an upland and irrigated rice producing zone, illustrates the impact of liberalization. Nicknamed “Washington” because of its dynamic entrepreneurship, the milling neighborhood had 14 micro- and mini-mills in 2002. Gagnoa’s privatized and closed SODERIZ industrial mill was rented to an American cocoa trading company for storage. Local merchants purchased the first Chinese-made mini-mill in 1993. In 2002, the millers provided small loans for fertilizers and herbicides, but they complained about poor repayment rates, 60-65%. Both millers and farmers struggled with imported rice selling at 110 CFA/kg (\$US0.15) and local rice at 250 CFA/kg (\$US0.35). Comparable examples, but with distinct local conditions, from Man in the west, Bouaké in the center, and the milling centers of the Abidjan hinterland, confirm the findings of other surveys (22, 31). Price, coupled with cleanliness and the propensity to swell with moisture and thus leave a satisfying feeling in the stomach, were the main factors when the urban poor purchased cheap imported rice. Under liberalization, imported rice became the cheapest calories in Ivorian cities (31). In contrast, those buying local rice did

so for its taste or particular cooking properties. They paid more for their local rice preference both in retail price and in time expended to clean the rice.

Following the violence in the streets of Abidjan in 2008 as a result of the high price of rice, President Laurent Gbagbo's actions to suspend import taxes on rice and seek self-sufficiency by 2012 are proof of rice's critical role in civil order and the political economy. Furthermore, the call for self-sufficiency invoked an import substitution strategy that dates to the pre-independence era (35, 36). Modest support for better processing could help make local rice more competitive with imported rice. However, supply instability causes price fluctuations once regulated and now offering a market opportunity for cheap imports. Is it realistic to imagine small mills producing the additional 700,000 tons of clean white rice to replace imports? When self-sufficiency was briefly achieved in the 1970s, the state's integrated production, processing, and marketing system was operating. Without such a system or means to regulate the interests of politically powerful importers, and the poor farmers who comprise the rice-growing labor, the calls for self-sufficiency risk having no weight. With imports flooding the country since liberalization, a strategy to achieve self-sufficiency in rice will need to take into account competition between local and imported rice as well as promotion of other domestic food crops.

Mali Case Study

Mali is a land locked country with roughly 70% of its population being rural and agricultural. Cotton is the dominant cash crop accounting for over 80% of export revenues (33). Rainfed cereals (mainly millet, maize and sorghum) constitute 85% of cereal calories, with rice providing the remaining 15%. Rice is more important in urban areas, accounting for half of cereals

consumed (37). Mali produces 80% of its own rice, as compared to 15% for The Gambia and 40% for Côte d'Ivoire. While Mali imports rice, it is not a net food importer in most years (7).

Average food prices in Bamako (Mali's capital city) never reached the levels they did in other West African urban centers during the 2007-2008 period. Nonetheless, the Malian government was sufficiently alarmed by rising food prices in 2008 to suspend tariffs on imported rice and ban exports of Malian rice to neighboring countries (the latter measure being less effective). The government also launched an upland, rainfed Nerica rice initiative in April 2008.[†] According to interviews in 2009 with key informants in and outside government, most believe that this effort only had a limited effect on rice production.

This section argues that, while the suspension of import tariffs may have exerted some downward pressure on rice prices, a combination of other short and long term factors more effectively explain Mali's better position during the 2007-2008 global food crisis. These factors include: relatively more robust rice and coarse grain sectors, a record grain harvest for the 2008 season spurred by good rainfall, burgeoning sorghum production linked to the collapse of cotton for export, and adaptable poorer households who were willing to switch to coarse grains when rice prices climbed. Further, many of these factors are linked to Mali's relatively good internal transportation network, landlocked nature, and past policy decisions. The findings in this section are based on field work in 1992, 1999-2000, 2003, as well as semi-structured interviews in 2009 with 30 urban and 30 rural households about the 2007-2008 global food crisis.[‡]

[†] New Rice for Africa (NERICA) is a cross between Asian and African rice varieties developed by the Africa Rice Center, formerly known as the West Africa Rice Development Association (WARDA).

[‡] Semi-structured interviews were conducted in the local language (Bamanan) with 30 urban and 30 rural households in July 2009. Urban households were selected at random from four neighborhoods in Bamako: Badialan

State Led Development in the Colonial Era and First Two Decades of Independence.

Mali's Inland Niger Delta is one of the oldest rice production areas in the world, and the zone where African rice (*Oryza glaberrima*) was likely domesticated (38). In addition to this area, rice traditionally is grown in southern Mali's seasonal wetlands (or bas fonds). Much of this rice is for home consumption. As in Côte d'Ivoire, policies giving priority to rice in national development strategies date to the French colonial period. The Office du Niger (ON) was initiated in the 1920s by the French with an initial focus on cotton which was later switched to rice (see Figure 1). At the heart of this scheme was a dam constructed on the Niger River near Segou (at Markala) to divert water northward into a series of canals and irrigated perimeters. The success of this scheme is contested. Proponents point out that the ON has historically produced half of Mali's rice and, more critically, most of the domestic rice for urban markets (39). Critics note that this scheme: diverted water from the traditional, down stream rice growing areas of the Inland Niger Delta, suffers from salinization and was implemented at a massive human cost (involving the importation of labor from Burkina Faso which remains in the area until present) (40, 41).

The other crop given priority in the French colonial period was cotton, which also had traditionally been grown in the area. After failed attempts to develop export oriented cotton

III, Bankoni, Niamkoro and Sabalibougou. Badialan III and Bankoni are older neighborhoods on the north side of the river and are primarily composed on households that have been in Bamako for a generation or more. Niamakoro and Sabalibougou are newer neighborhoods on the south side of the river and are largely composed of more recent arrivals. According to key informants, Badialan III is considered more of a middle class neighborhood, whereas Bankoni, Niamakoro and Sabalibougou are considered to be poorer. Rural interviews, also with randomly selected households, were conducted in three villages (Falan, Zambougou and Nianzana) in the commune of Sanankoroba. These villages are located approximately 80 km to the southeast of Bamako. Agriculture in this area is dominated by coarse grain production (sorghum and maize), peanuts and cotton. Rice is grown by women in seasonal wetlands. Interviews were conducted with at least two family members per household at took from 40-60 minutes.

along the Niger River in the ON irrigated schemes (42), the French finally settled on rain fed cotton in the southern part of the country in the 1950s as the best way to valorize this colony (43). Many of these same policies emphasizing rice and cotton were continued during the first two decades after independence. Consistent with the modernization approach of the time, the state sought to capture surpluses from agriculture (including coarse grain trade) via marketing boards in order to invest in industry (37).

1980s and 1990s: Market Reforms and Export Orientation. Mali, like neighboring countries, went through a period of liberalization in the 1980s and 1990s in the form of structural adjustment. In the agricultural sector, the most concerted efforts were made to liberalize cereals marketing. Tariff barriers on imported grains were reduced. The grain marketing board (*Office des Produits Agricoles du Mali* - OPAM), which had controlled consumer and producer prices, was also forced to relinquish its monopoly control. While this change was significant, it should also be understood that OPAM only handled between 20% and 40% of grain traded in the country, and an even smaller percentage of total production (as 85% of grain production was used for subsistence and not traded) (37). The loss of monopoly control by OPAM did create a much larger official space for private grain traders. Nonetheless, OPAM continued to market much of the rice produced by the ON (as the state retained management of this scheme). Rice from the ON remained competitive because of donor investments in the scheme and Malians' taste preference for local rice.

The cotton sector retained a high level of vertical integration with the semi-privatized state cotton company, the *Compagnie Malienne pour le Développement des Textiles* (CMDT),

maintaining monopsony control. Unlike OPAM, which was losing money and draining state resources, the cotton sector was not fully privatized because the cotton company was highly profitable, accounting for the majority of export revenues and a sizeable proportion of government receipts. Interviews with civil servants in 2000 revealed an acute awareness of the importance of the CMDT. For example, a common refrain was “Grâce à la CMDT, nos fonctionnaires sont payés” [because of the CMDT, our civil servants are paid]. When the CFA franc (the common currency in francophone West Africa) was devalued in 1994 by 50%, the price for this crop in local currency immediately rose. The government captured much of this surplus, only passing on some of this to farmers. However, the rise in cotton producer prices was enough to spur production. Cotton production rose steadily in the 1990s, surpassing 500,000 metric tonnes per annum in several years between 1998 and 2004 (during which time Mali was often the leading cotton producer in sub-Saharan Africa).

Despite national production statistics for cotton and sorghum which often demonstrate an inverse relationship (see Figure 4), the CMDT frequently maintained that cotton and grain production were complementary. According to the CMDT, cotton production increases sorghum production when the two crops are rotated from year to year on the same plot. Cotton provides the revenue to purchase inputs. Sorghum then benefits from the residual fertilizer in off years. This appears to be what is happening for the wealthiest of households.

Insert Figure 4

Field work in four rural communities in 2000 revealed a more nuanced story than that promoted to farmers by the CMDT (44). Out of a sample of 65 households arrayed across different wealth groups, cotton production did rise significantly between 1982-84 and 1997-99 (see Figure 5). However, grain production during this period only rose for the top 10% of households classified as wealthy. Poor and intermediate households saw their surplus food production decline during this period (by -76% and -79%) as their cotton production grew (see Table 3). Wealthier households are larger, averaging 20.1 working age persons, as compared to 10.6 and 6.9 for intermediate and poor households respectively. This means that wealthier households also have sufficient labor to maintain food crop and cotton fields. Poorer and intermediate wealth household often compromise labor inputs to food crop fields as they expand cotton production. Poorer and intermediate wealth households also are less able to invest in fertilizer, meaning that the sorghum crop has less residual fertilizer to benefit from in off years. Finally, while the currency devaluation did increase the producer price for cotton, it also led to substantial price increases in inputs – further encouraging the underuse of fertilizers.

Insert Figure 5 and Table 3

The Malian cotton crop peaked at 564,971 metric tonnes in 2004/2005. By 2007/2008, the cotton crop was 240,237 metric tonnes, a decline of over 50%. The chief reason for declining cotton production is a sagging global price, which was 14% below the five year average in 2007/2008 (45). Low cotton prices also led to a strike amongst cotton farmers in 2007. Sorghum production rose dramatically as cotton production declined.

Explaining Mali's Favored Position. In concluding this section, we address two key questions. The first concerns explaining the shifting mix of imported versus local grains consumed in Mali (particularly by urban dwellers)? Mali's increasing use of imported rice, while less pronounced than in neighboring countries, is related to at least three factors. First, there were increasing quantities of cheap Asian rice on the market whose importation was facilitated by relatively modest tariff barriers. Second, drought conditions and food shortages in the early 1970s and mid-1980s conditioned Mali to food imports as a way to resolve food problems. Third, while Mali is still a predominantly rural country, its urban population has been growing at a steep rate in recent years, and currently represents about 30% of the population (46). The increasingly urban nature of Mali's population partially explains a shift from coarse grains to rice. Other studies (2, 5, 46), as well as qualitative interviews with urban households in Bamako in 2009, suggest that rice is favored by urbanites because of: 1) the ease and speed and which it may be prepared; 2) a perception that rice is a more desirable food stuff for middle class households; and 3) the ability of rice to greatly expand when it is cooked, suggesting that its cost per volume may be lower when rice prices are low.

The second question concerns the implications of the current mix of domestic and imported food supplies for urban food security and rural livelihoods in Mali. A closely related question is why Mali became less dependent on imported rice than The Gambia and Côte d'Ivoire, even though it experienced similar policy reforms in the 1980s and 1990s? The rising price of food, particularly rice, was clearly a problem for Mali in 2007-2008. However, Mali's higher level of food self-sufficiency saved the country from the worst of this crisis. This higher level of national food self-sufficiency is related to several factors. First, Mali's landlocked status and related expensive

transport options to coastal ports have made imported rice relatively more expensive, a factor which favors domestic rice producers. While being landlocked is often presented as a development handicap (47), in this instance it created enough financial space for the sustenance and growth of a national food economy. Second, Mali's internal road network has improved in recent years (spurred by high levels of donor support) which reduced the cost of getting local rice to market (48). Third, local rice producers are aided by urban consumers who prefer local to imported rice (with "gambiaka" being the most preferred local variety), even when (to a point) local rice is more costly. While poorer urban Malians are more likely to consume cheaper imported rice, they are also more likely to switch to coarse grains when rice prices rise. This willingness to switch to coarse grains is in part related to urban Mali's relatively high number of recent immigrants from rural areas, many of whom are accustomed to a diet primarily composed of coarse grains. The collapse of cotton, and a switch of many cotton producers over to sorghum, meant that this grain was abundant at the time when rice prices rose.

Conclusions

Policy documents focused on urban consumers seldom reveal the extent of the contemporary agrarian crisis in some West African countries. This is evident in declining yields, the feminization of agriculture, and in rural to urban migration. This crisis is typically blamed on population growth, consumer preferences and backward techniques rather than a policy context. Structural adjustment, which led to a series of policy changes across West Africa in the 1980s and 1990s, favored Asian exporters over West African producers. The removal of production subsidies (often in the form of support for inputs) and declining tariff barriers led to a flood of Asian rice on local markets. Policies in The Gambia and Côte d'Ivoire from the 1980s disfavored

investments in extension services to rice farmers. The limited ability to mill locally produced rice, or mill it in a low quality fashion, further disadvantaged rice producers in The Gambia and Côte d'Ivoire vis à vis cheap imports. The vulnerabilities of this new West African urban food regime were not apparent until the price for imported rice reached unprecedented levels in 2007-2008.

The findings of this study have implications for an on-going discussion about the need for a New Green Revolution in Africa. We suggest that the Green Revolution efforts focused on rice in West Africa continue a long standing urban bias in food and agricultural policy in this region. The African development literature often discusses the urban bias of state-led development efforts during the two decades following independence in terms of price controls to benefit urban consumers and the taxation of agriculture in support of industry (4, 10, 37). This study argues that this bias – in the form of policies to provide cheap rice for urban consumers – continued during the era of free market reform, and is also resurgent in the current period. The focus on rice has been driven by a desire to address the demands of urban consumers for affordable rice, rather than a goal to improve the livelihoods of rural producers.

The importation of relatively cheap Asian rice from the 1980s met the needs of urban consumers for more than two decades because it supplied the unmet demand for rice and also exerted downward pressure on local rice prices. It was asserted that freer markets would benefit rural households when producer prices were no longer controlled (4). However, this policy undermined local rice producers and, by extension, rural livelihoods. This was particularly serious in The Gambia and Côte d'Ivoire where the costs of importing rice were lower and

investment in local rice production declined more rapidly than in Mali. In all three countries, rice producers had to contend with rising input costs. The result was emaciated rice sectors in the first two countries. The downside of this strategy for urban consumers did not become evident until recently when it exposed them to global rice price fluctuations.

While short term measures have been taken to reduce the cost of imported rice, national governments largely have returned to an older (pre free market reform) strategy of producing more rice at home in the face of a volatile global markets. They are assisted in these efforts by a donor community which now seems ready to invest in agriculture again, especially if it is focused on high yielding, high input varieties such as Nerica rice. While it may seem otherwise, the current concern for increased rice production at home is more about helping urban consumers than rural producers. The bias of this effort is probably most evident in Côte d'Ivoire and Mali where an abundance of other food crops exist, many whose production could be more easily increased than rice.

Southern Mali, often noted for its potential to be the bread basket of West Africa, historically has produced significant volumes of sorghum, maize and millet. While sorghum and millet can be produced with few inputs, the rain fed variety of Nerica rice being pushed requires purchased seeds and fertilizers, as well as relatively good rainfall. Furthermore, while women traditionally grow rice in southern Mali's seasonal wetlands, it is men who are being encouraged to grow rice in upland areas. Not only do men have little experience with this crop, but (according to semi-structured interviews) it strikes them as odd to be planting rice in fields where they historically grew cotton and sorghum. Furthermore, there is no organized credit system in place to support

the purchase of the seed and fertilizer required for rainfed Nerica rice production. The novelty of upland, rain fed rice production for men, the poorly timed delivery of inputs and the lack of a credit system to support rice largely explain why southern Mali's Nerica rice initiative performed under expectations in 2008 (45).

The question now is what these countries should do from 2009 moving forward. While many are calling for a renewed emphasis on production, and a New Green Revolution for Africa, we must be careful not to repeat the same mistakes of the first attempts at this in the 1960s through early 1980s. These early attempts often favored the wealthy and male members of the community, as well as cash crops over food crops. We must also revisit the policy context of the 1980s-1990s which created the 2007-2008 crisis. As such, tariff barriers and subsidies may be appropriate to protect and support local food producers.

The way forward will require that policy makers consider the needs of urban consumers and rural producers, the latter of which has almost always been a secondary concern. If new seed technologies are to be developed, then these should be designed with the needs of the poorest farmers in mind, including women. The almost uni-dimensional obsession with rice might also be tempered, creating space for other crops which are well adapted to drier West African environments, such as millet, sorghum and maize; and cassava, yam and plantain banana in the more humid south. If food production is to be increased, as or more important than improved seed packages will be the credit systems, road networks, and milling/processing capacity needed to get crops to market. An examination of commercially successful cash cropping endeavors in West Africa, such as cotton until the 2000s (49), suggests that governments paid just as much

attention to these support factors (credit, transport and processing) as they did to seed technologies.

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Table 1: Rice Prices and Consumption in The Gambia, Côte d'Ivoire and Mali

Country	The Gambia	Côte d'Ivoire	Mali
2008 Peak Imported Rice Price (\$US/kg) (6)	.84 (24 dalasi)	.84 (370 cfa)	.91 (400 cfa)
2007 per capita GNI (USD) (7)	\$320	\$910	\$500
Rice Consumption per capita (8)	89.7 kg	74.3 kg	48.7 kg
Rice Imports as % Consumption (9)	85%	60%	20%
2007 Population (millions) (7)	1.7	19.3	12.3

Table 2: Mill Services in Côte d'Ivoire's Regional Rice Producer-Processor Networks, 2002

Regional rice network	Total mills operating	De-husking fee (FCFA/kg)	Percent mills Providing credit	Percent mills owning vehicle to transport paddy rice
Abidjan hinterland	114	15-25 (US\$0.02-0.03)	70	27
Man-Danané	25	10-25 (US\$0.01-0.03)	21	14
Bouaké-Korhogo	9	10-15 (US\$0.01-0.02)	55	33
Daloa & Center West	49	25 (US\$0.03)	18	18

Source: Fieldwork and surveys, 2002

Table 3: Surplus Food Production (months of household food needs) in Djitoumou, Mali

Wealth Group	Sample size	1982-84	1997-99	Change
Poor	40	2.52 mo.	.6 mo.	-76%
Intermediate	18	5.16 mo.	1.08 mo.	-79%
Rich	7	1.56 mo.	2.16 mo.	+38%
Avg	65	3 mo.	.96 mo.	-68%

Source: Fieldwork and surveys, 2000

Figure 1: Location of The Gambia, Côte d'Ivoire and Mali, including relevant agricultural zones. Cartographer: Birgit Mühlenhaus, Macalester College, 2009

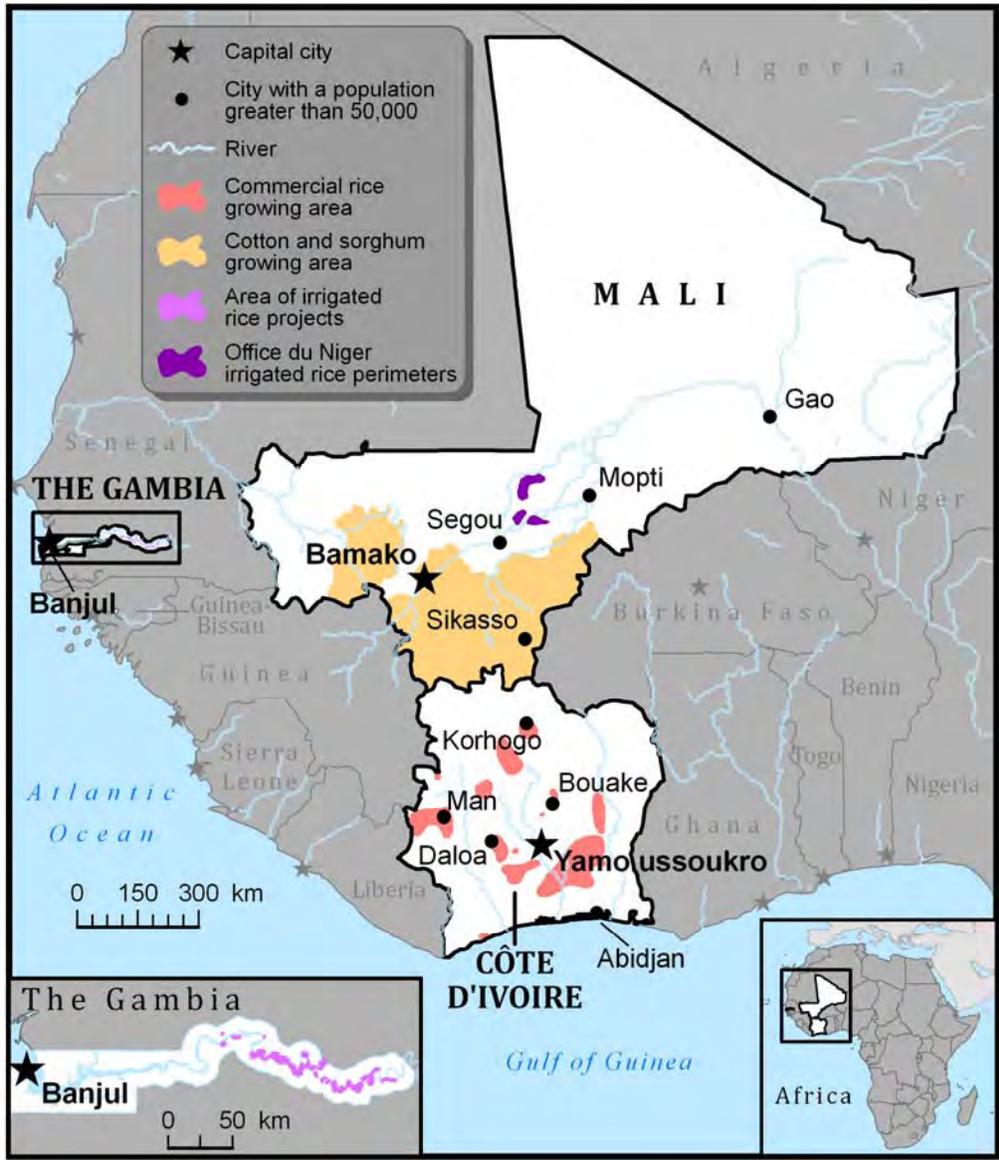
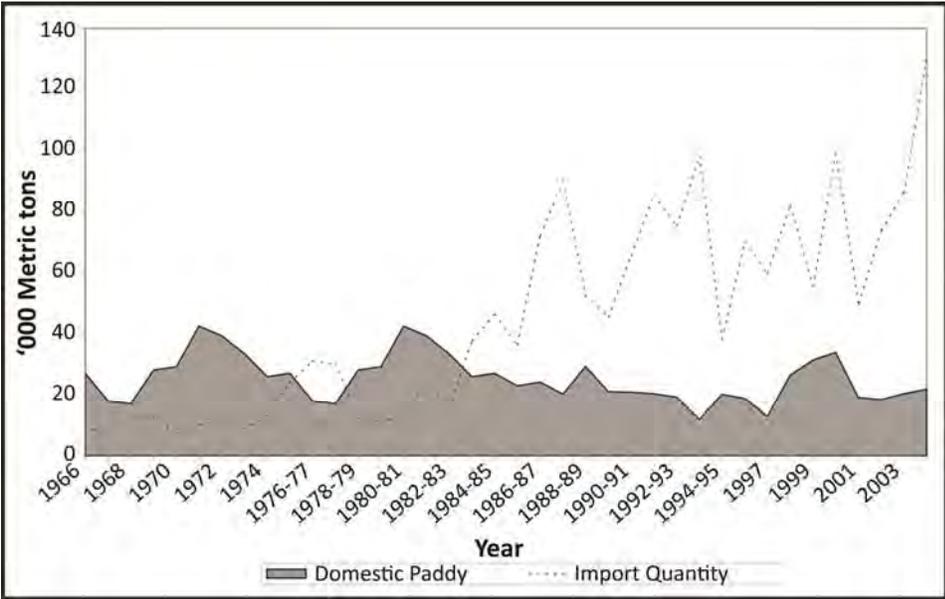
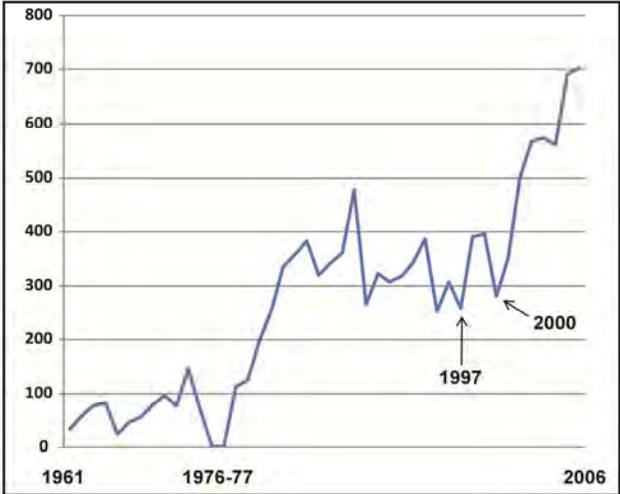


Figure 2: Gambian Rice Imports and Domestic Production



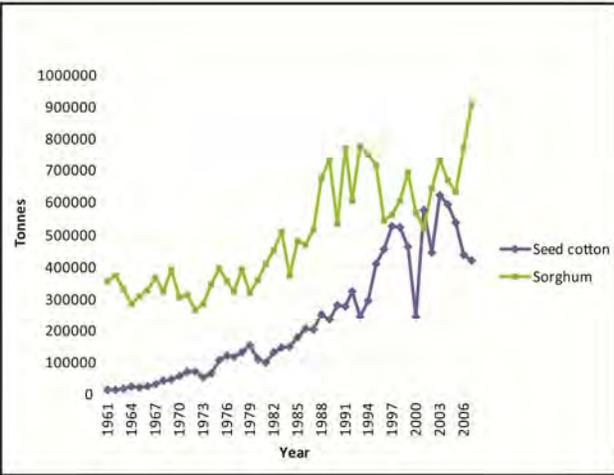
Source: Based on data from ref 17, 18.

Figure 3: Figure of Rice Imports, Côte d'Ivoire, 1961-2006 (thousands of tons)



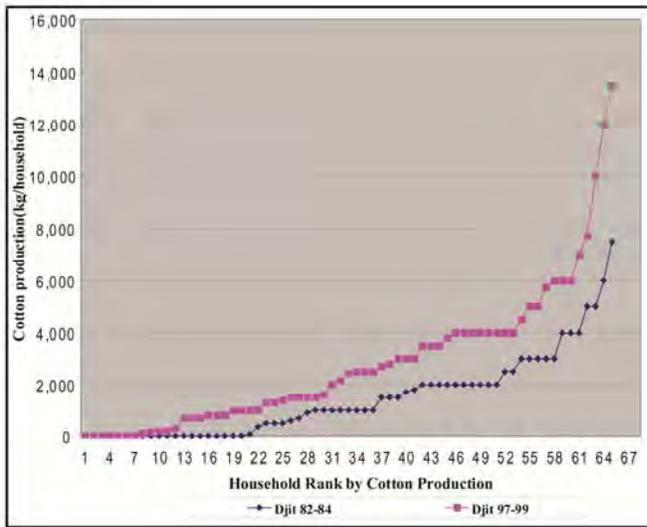
Source: Based on data from ref 9

Figure 4: Sorghum and Seed Cotton Production



Source: Based on data from ref 9.

Figure 5: Cotton Production in Djitoumou, Mali (1982-84 vs. 1997-99)



Source: Fieldwork and Surveys, 2000.