

**Damaged Environments and Lives:
The Bitter Harvest of Rice Policies in The Gambia**

Dr. Judith A. Carney

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Introduction

One of the tragic consequences of rice policies in The Gambia over the past twenty years is how severely they undermined the domestic rice sector. Between 1966-1984, international development assistance had promoted irrigation projects on the country's abundant alluvial swamps. The objective was to create surpluses for national demand by growing the second crop by irrigation. Double cropping would strengthen household food reserves while generating surpluses to raise rural incomes. But irrigation, as planners repeatedly failed to comprehend, involves more than the implementation of a technical infrastructure. Social factors are also important since irrigated agriculture imposes rigid production schedules and requires shifting seasonal farming systems to year-round cultivation. Gambian irrigation projects sowed seeds of discord, as the traditional rice growers, women, lost control over their developed fields to male household heads, who expected their wives to carry out the new labor regime (Carney 1988, 1993). The projects improved subsistence security but failed to deliver anticipated marketable surpluses. While productivity suffered, rural households were in the process of adjusting female crop rights and family labor for irrigated farming over the brief period that the domestic rice sector received policy support (Carney 2004). There was genuine economic optimism in the mid-1980s among Gambian irrigated rice growers.

Then came the first of a series of economic reforms that changed Gambian rice production completely. From 1986, the International Monetary Fund oversaw the country's structural adjustment. For rice farmers the policy change completely altered the landscape of production. Government interventions in irrigated rice farming came to an end as comparative advantage replaced import-substitution rice policies. The reforms removed the producer support price of domestic rice as well as subsidized inputs, such as fertilizer, whose price climbed steeply by the end of the 1980s (McPherson and Posner 1991). The parastatal responsible for rice purchases and inputs was dismantled. Foreign-trained agronomists and rice experts who had been posted to rural sites were reassigned to the capital, as government bureaucracies were downsized and cost-saving measures imposed. The devaluation of the Gambian currency cheapened the cost of imported rice. Within a decade, milled imports more than doubled while the domestic rice sector stagnated.

The long-term effect of structural adjustment is a disarticulated economy and the emergence of two Gambias. One is the urban seaboard, home to one-third of the country's population, which is fed with milled Asian imports. The other is rural Gambia, barely accessible by road, where green revolution Asian varieties (*Oryza sativa*), continually introduced since the 1960s, replaced the indigenous African rice (*Oryza glaberrima*) which had been cultivated in West Africa for thousands of years (McIntosh 1994; Carney 2001; Ehret 2002). Without fertilizers, as contemporary farmers have bitterly learned, the comparative advantage of the Asian rice varieties is lost. In this contemporary policy context, "development" has become a synonym for disillusion. Donor promises of food security and poverty alleviation are now forgotten in the aftermath of neo-liberal policies.

Irrigation projects removed traditional fields from tidal flow, depriving them of fertile alluvium. These wetlands are now degraded and no longer produce at former capacities. They serve as an enduring memory of broken promises to rice farmers. But the environmental effects of the destruction of the domestic rice sector are also apparent on the rain-fed plateau. The collapse of irrigated rice has shifted the emphasis in food production from the wetlands to the uplands and to rain-fed cereals that do not depend on fertilizer. Extensive agriculture now replaces intensive irrigated rice farming. This carries some risk, as arable land has expanded despite declining precipitation trends (Schroeder 1999).

This paper examines the role of rice in the Gambian political economy over the period since independence in 1965.¹ An emphasis on rice illuminates the effects of macro-economic policy on domestic production, rural poverty, and the environment since neo-liberal reforms dismantled the country's rice import-substitution program nearly twenty years ago. Discussion begins with the growing regional dependency on rice in West Africa, especially the role of milled imports in urban consumer demand. However, there is less commentary on the effect of imported rice on rural producers in countries such as The Gambia, with an ancient history of growing the grain. The second section provides that context in an overview of Gambian rice projects developed for import-substitution objectives. Significant trends in agricultural production, food availability, and land use following the implementation of market liberalism and comparative advantage policies are addressed in the next section.² Their linkage to market reforms in the decade of the 1980s is discussed in the fourth section. The paper concludes with an examination of the ability of a new rice variety (NERICA) to reverse the worsening agrarian crisis when the policy focus remains on cheap rice imports.

Rice and Food Availability, The West African Context

The demand for rice has been growing throughout West Africa since the 1970s. This represents a shift away from coarse grain consumption (millet, sorghum, and maize) in response to population growth, urbanization, and consumer preference for milled rice because its preparation is labor saving (Pearson 1981; WARDA 2001). Imports now constitute more than two-thirds of the cereal's regional demand while countries grow increasingly dependent on the rice trade for domestic cereal supplies. Many experts view this as a worrisome trend as rice availability and the grain's market price are typically considered primary determinants for gauging the welfare of the urban poor, the least food secure part of the population (WARDA 2001).

While interest in the West African rice trade remains focused on urban consumers, there is less attention paid to the cereal's role in the rural economy and the implication of rising imports for the rural poor. This is of particular concern in The Gambia, where rice is an indigenous cereal, the leading dietary staple, and a symbol of cultural identity.³ A country with two-thirds of its population involved in agriculture is growing every year more dependent on imported rice to satisfy urban demand. Domestic rice-growing traditions and practices are meanwhile being eroded by the importation of cheap foreign substitutes. The loss of a rich cultural heritage is not only at stake, but the deprivation of vital markets for rural farmers as well. Policy concern therefore can no longer focus solely on

urban consumers. The abandonment of Gambian rice farmers with economic reforms is contributing to rural poverty and is evident in degraded wetlands and forest clearance to expand cultivation of rain-fed coarse grains that produce food without fertilizers.

This case study of the rice trade in The Gambia shifts the research concern to the rural area where two-thirds of the population lives and farms. Imported rice, its costs in foreign exchange, and neo-liberal policies that forced the abandonment of government involvement in supplying agricultural inputs, credit, and marketing to domestic producers since 1986 have left a rural economy in ruins. To understand the bitter harvest of such policies, a brief history of the country's rice history follows.

Food Security in the Prelude to Comparative Advantage

Rice grown in Gambia was incorporated early into international markets. At the height of the Atlantic slave trade, European traders along the Gambia River relied on regional rice production for food as did captains of slave ships, who routinely purchased surpluses to provision their victims across the Middle Passage (Carney 2001). In this manner, rice became the first cereal globally traded. Its potential as a commodity certainly was not lost on resident Europeans, who knew that the rice plantations of South Carolina and Georgia figured among the destinations of those they sent into transatlantic slavery. In the 1770s, for instance, the commandant of Senegambia remarked that "rice may be produced here as much as in the Provinces of Carolina and Georgia."⁴ Even though the actual expertise for pioneering the cereal's establishment in the Americas originated with enslaved West Africans already practiced in the cereal's cultivation, the dream of turning Gambia into a "rice bowl" prevailed when the territory was made a colony of England in the 1880s.

Gambia forms part of West Africa's indigenous rice region, which extends south along the Atlantic seaboard from Senegal to Côte d'Ivoire and inland for 1500 kilometers to Chad. More than 4,000 years ago, Africans domesticated an independent species of rice (*Oryza glaberrima*) in this region (McIntosh 1994; Carney 2001; Ehret 2002).⁵ However, their achievement was not recognized until the twentieth century, when the scientific community reached consensus that *glaberrima* was indeed a separate species from Asian *sativa* (Carney 2001). The enthusiasm for transforming West Africa's indigenous rice region into an export economy offered the path to "legitimate commerce", namely, a shift in the commodity focus from human beings to crops. Efforts to effect this transformation with rice ensued with the imposition of colonialism in 1885.

The initial efforts focused on developing varieties of Asian hybrids to increase rice production. British West African colonies experienced repeated seed introductions that were developed at the Rokupr Rice Research Station in Sierra Leone. These were developed for fertile lowland swamps and tidal floodplains. While less tolerant of the environmental extremes (drought, salinity, flooding, micronutrient deficiencies) in which African *glaberrima* developed, Asian rice held a decided advantage in colonial development strategies. It is higher yielding and does not break apart when mechanically milled. By the time Gambia achieved independence in 1965, African rice had already given way to Asian *sativa*.

Rice played an important role in the Gambia colony. Economic policy encouraged a spatial division of agriculture, with the uplands concentrated in cash crop (peanut) cultivation and food production increasingly in lowland swamps. The effect was to reduce the acreage planted to traditional (millet and sorghum) and introduced (maize) rain-fed cereals in favor of lowland rice. However, the policy placed a greater burden on rural women for subsistence, as rice was a woman's crop. By the 1940s the structural dislocation of the Gambian export economy was evident. Swamp development projects, which disseminated Asian seeds and improved female access to wetland rice areas, could not keep pace with the reduction of acreage in coarse grain cereals and the rising food demand from migrant peanut farmers, who were largely responsible for the vast increase in peanut cultivation (Carney and Watts 1991). Limits had been reached in the amount of land and labor Gambian women could devote to subsistence rice farming (Haswell 1963).

The contours of the present food crisis thus were evident in the final years of colonial rule. Rice had emerged as the dietary staple, but the erosion in food availability by the 1950s necessitated importing some 10,000 tons a year. While a large-scale irrigation scheme, developed in the 1950s, proved a colossal failure, it heralded the rice development strategies that donors contributed after the country's independence (Carney and Watts 1991). Colonial rule came to an end amid rising rice imports, even though only ten percent of the Gambian population then lived in the capital.

Just forty years later, the country is now dependent upon the market for about seventy-percent of its annual consumption. How this occurred is not simply a consequence of population growth and urbanization along the Atlantic littoral, where one-third of the country's population currently resides. Rice policies have also contributed to the erosion of domestic production.

From 1966 to 1984, the Gambian government received foreign aid to develop irrigated rice projects under the banner of food security. From the twenty-five thousand hectares of swamp rice traditionally planted by women, four thousand hectares of fertile area were developed for irrigation (FAO 1983; CRED 1985). Today, only ten percent of the irrigated land remains in production. To understand how policies shaped this outcome, the post-colonial era can be divided into two crucial periods: one emphasizing rice import-substitution with irrigation projects immediately following independence (1966-1984); and their abandonment to comparative advantage policies from the mid-1980s to the present that favor cheap Asian imports.

Small-scale rice projects sponsored by the Taiwanese government (1966-74), the World Bank (1973-76), and mainland China (1975-79) were the prelude for a large-scale scheme developed by the International Fund for Agricultural Development (IFAD 1984-1989). Each project depended upon green revolution rice varieties, fertilizer subsidies, credit, and government assistance with input deliveries and marketing (Brautigam 1988; Akyrod 2003). The objective was to promote double cropping, with the second harvest providing a cash crop in addition to peanuts. But in turning over the developed plots to male household heads, each project hastened the removal of fertile rice swamps from female growers, thereby weakening women's claims to a share of the paddy produced by

their labor (Dey 1981). The way this occurred is discussed elsewhere in considerable detail (Carney 1993, 2004) but can be briefly summarized.

Rural households found themselves pressed to provide labor for both irrigated rice as well as peanut cultivation during the busy rainy season. Irrigation demanded considerable intensification of labor and strict adherence to a rigid agricultural calendar. In trying to draw men into rice farming, donor agencies agreed to designating the developed fields as household land, assuming that doing so would lead all family members to work jointly in rice cultivation. But men traditionally farmed the uplands and women, lowland rice. By designating the irrigated plots household, rather than women's individual land, donor agencies gave senior males control over the surplus that customarily benefited their rice-farming wives. This land use category also presumed new claims on female labor, as women's traditional obligation to provide food for their families had developed historically for a single cropping season. The shift to two cropping cycles with irrigation thus demanded the establishment of new conventions within rural households in order to grant women remuneration in paddy for their labor. As each project differed in plot size and organization, these social factors required time and adjustments for male and female family members to develop more equitable farming arrangements within a radically different farming system.⁶ But before that process was fully completed, policy directions had changed to make imported rice cheaper (Carney 1993; Jaiteh 2003).

While the projects failed to deliver substantial marketable surpluses, they contributed to strengthening rural subsistence security. The mid-1980s was a period of optimism for rural Gambian households. While people were materially poor, they *were* eating in the region of irrigated rice projects, and industrious households were able to purchase a watch, transistor radio, or even a bicycle. A research trip to the region in July 2004 revealed a stunning decline in rural well-being over the previous ten years. Food shortages were rampant, with rice barely yielding because fertilizers were unavailable and where they could be purchased (across the border in Senegal), unaffordable.⁷ The country's most productive rice region was emptied of young men, who had been forced to migrate by the dire circumstances of their families. With the male exodus in full force, the optimism of an earlier generation had been replaced with fragmented families and bitterness. In the region's principal agricultural station in 2004, there remained no meaningful presence of Gambian agricultural experts, whose previous residence there had at least assured farmers of the government's concern for their well being. Instead, rice growers are now peripheral to the nation's economy and attention.

Rice Imports and the Emergence of Two Gambias

Typical of the pattern found in other West African countries, milled rice imports to The Gambia now vastly exceed the amount produced domestically. The ratio between domestic production and imports dramatically altered during the 1980s (Figure 1). Before then, in the period from 1966 (just after independence) to the early 1980s, domestic rice production had steadily increased, in part from irrigated rice projects (FAO 1983).⁸ The cultivated area peaked at thirty thousand hectares, while domestic production met half the national demand for the cereal (GOG 2004). After 1983 the domestic rice sector began a decline that has not reversed. While milled rice imports soared from 16,200-52,800 tons

between 1983-1989, domestic production fell from 33,700 to 29,500 tons. Since the 1990s domestic production has stagnated at about 20,000 tons of paddy. Dependence on milled imports continued its steady rise, from 45,800 tons in 1990 to 130,600 tons in 2004 (Figure 1).

The decline in self-sufficiency of the national dietary staple since the 1970s is evident in Figure 2. Self-sufficiency refers to the percentage that domestic production represents of total rice consumption in any given year.⁹ In 1971, The Gambia met 76% of its demand for rice with domestic production. Self-sufficiency declined to 61% in 1983 but just seven years later in 1990, the domestic share of total demand fell precipitously, to only 26%. Thus, in comparison with other West African countries where the rice crisis (expressed in growing dependency on imports) was evident in the 1970s, in rice-producing Gambia it did not become apparent until a decade later (Pearson 1981). Imports spiked considerably in the late 1980s and never really again subsided (Figure 1). Implementation of the small-scale irrigation projects thus enabled Gambia to cover seventy percent of its rice demand in the early 1970s, when the national population was estimated at one-half a million (Figure 3). Even by 1983, when the country's population reached three-quarters of a million, domestic production accounted for half the amount of the cereal domestically consumed. But in just five years, the domestic rice sector only contributed 15 percent of the rice being consumed. While the ratio improved in a few isolated years during the 1990s, the pattern did not hold. In 2004, when the country's population had reached 1.2 million, it hovered around eleven percent.¹⁰

Figures that reveal growing dependency on imported rice typically draw policy attention to urban consumer demand, but Gambia remains an agricultural country, with two-thirds of its people involved in farming. The country's principal cash crop since the nineteenth century remains peanuts. However, production is languishing with the downward trend of global commodity prices over recent decades. For this reason, the amount of land planted to peanuts over the past thirty years has not much changed. In 1974/75 peanuts occupied about 105,000 hectares; by 2003, only an additional 3,000 hectares were planted (Figure 3). No significant cash crop had emerged in rural areas as an alternative to peanuts.¹¹

What then are rural farmers pursuing as an alternative agricultural strategy? There is a discernible shift in farming strategies to subsistence cultivation. While the urban population grows ever more dependent on imported rice, rural farmers are facing their bleak agricultural prospects by strengthening household food security. Sixty-one percent of Gambia's agricultural area is currently planted in cereals, principally coarse grains (millet, sorghum, and maize), which now occupy fifty-five percent of total arable land (Figure 3). These cereals are being grown for subsistence, not the market. In just one generation, from 1974/75 to 2003, the land devoted to coarse grain cultivation in The Gambia increased by nearly a factor of four, from 41,900 to 155,600 hectares (Figure 3). As wetland rice cultivation has stagnated, the production of coarse grains (dependent upon rainfall) has vastly increased. Figure 4 shows the significance of the decade of the 1980s, when the domestic rice sector collapsed, for the shift and growing rural emphasis on coarse grain production. By the 1990s, farmer response to the agrarian crisis is discernible in expanding the rain-fed land brought under cultivation. Between 1974-75

and 2003 Gambian farmers increased arable land by fifty percent, from 170,000 to 285,000 hectares.

Population increase over this period of time cannot alone explain the shift towards rainfed cereal production in rural Gambia and stagnation of the domestic rice sector. The trends apparent in production figures also demand interpretation in terms of policy measures. An examination of the structural adjustment program mandated by the International Monetary fund from 1986 provides that perspective.

Comparative Advantage and Rising Rice Imports

In 1986 The Gambia, like other indebted African countries, was forced into compliance with new policies effected by international lending agencies. Future loans would depend on reforming the economy in favor of market liberalism. Comparative advantage replaced food security as the policy strategy. If the Gambia could not grow rice cheaper than Asia or the U.S., which export its milled production to the country, then policy supporters argued it should grow something else instead, such as vegetables, fruits, and flowers for which there is an export market.¹² This signaled the end of domestic policies that supported rice import-substitution. A series of economic reforms were put into place that adversely affected rice farmers. The producer support price that had encouraged domestic growers was eliminated in favor of a liberalized rice market. Devaluation of the national currency, the dalasi, additionally contributed to making imports cheaper. Structural adjustment moreover forced the withdrawal of the government parastatal, the Gambian Cooperative Union, from the supply of credit for seeds, fertilizers, fuel oil (for the pumps), land leveling, and tractor plowing. The marketing and transport of paddy was left to the anticipated emergence of rural entrepreneurs who never materialized. But it was the elimination of fertilizer subsidies in 1987 that dealt the harshest blow to the domestic rice sector and to the rural economy.

Gambian irrigation projects had contributed to the diffusion of high yielding Asian varieties (HYVs) that produced well when dosed with ample amounts of fertilizer, preferably urea. Fertilizers are absolutely critical to making HYVs more advantageous than indigenous *glaberrima* rice. The removal of the government's fertilizer subsidy in 1986 had an immediate effect, a four-fold increase in the price of this vital agricultural input (McPherson and Posner 1991). Table 1 clarifies what followed with market liberalization of fertilizer prices. In the year prior to the economic recovery program, fertilizer imports stood at 5,500 tons; between 1987-1990, imports dropped to just 600 tons. Some non-governmental organizations and aid agencies rushed in with subsidized fertilizer donations to cushion the devastating impact of their cost on rural production, contributing to the rise in usage to 2500 tons in 1998. But farmers are once again on their own in purchasing this key input. Fertilizer imports now average just 800 tons per annum for the entire country. The severity of fertilizer costs to rural producers and scarcity of its use in contemporary farming is underscored when it is remembered that the total area under cultivation in the country averages about 285,000 hectares (Figure 3).

In July 2004, as the agricultural season was getting underway, the only available fertilizer sold across the border in Senegal for \$15/bag. One hectare of green revolution rice

demands four bags, a total cost of \$60. To put this amount into perspective, the annual per capita income of most rural Gambians averages \$284. Cultivating one hectare of HYV rice demands then a cash outflow of nearly twenty-percent of a rural Gambian's annual income in fertilizer costs alone. The cruel outcome of rising fertilizer costs for green revolution varieties is evident in rice yields over the past twenty years. In the heyday of irrigation projects in 1982, yields averaged 1.9 tons per hectare. In the largest irrigation project developed by IFAD, farmers unable to afford fertilizers in 2003 managed only to harvest 500 kilograms of rice per hectare (Sanneh, pers.com.).

The economic reforms and shift to imported milled rice as a national food strategy clarifies then the pronounced reorganization in agricultural strategies and priorities evident in rural households from the end of the 1980s. As the domestic rice sector declined and peanut prices stagnated, rural farmers placed greater emphasis on subsistence security. This is evident in the expansion of arable land in rain-fed cereals that are typically planted without fertilizers as well as in the growing reliance on male migration for remittances.¹³ But this survival strategy carries environmental and social costs as it results in the clearance of forested land for cultivation and the loss of productive male labor. The shift to extensive, rather than intensive, agriculture contributes to environmental degradation and the destruction of rural culture.

When market reforms were implemented in the mid-1980s, the reliance on imported rice did not appear so potentially calamitous. World market prices for the cereal, expressed in terms of constant 1990 US dollars per ton, fell from \$571 in 1980 to \$279 in 1995 (Akroyd 2003). The price of imported rice is always held hostage to the vicissitudes of the international market. The swings have sometimes been spectacular. In 2004 this could be seen in the rising consumer price for rice in The Gambia. In just the eighteen month period between January 2003 and July 2004, the consumer price for a 50 kilogram bag more than doubled, from 220 to 560 dalasis (nearly US \$19), which tracks similar trends in the worldwide market price (USDA: 79-80). The limitations of the market to address equity concerns became apparent in late 2004 when President Jammeh tried to drive down the domestic price with imports from Burma. He financed the purchase of 100,000 tons, which was offered at a value 100 dalasis lower than the going rate, but the effort failed to reverse the trend towards rising prices. By early 2005, the cost of imported rice had again reached its previous value. With one-third of Gambians now living in the urban seaboard, the moment does seem propitious for reconsidering the consequences of a disarticulated economy where an entire history and tradition of growing rice domestically is sabotaged by economic reforms in favor of Asian and American rice producers.

Development Responses to the Domestic Rice Crisis

There have been some modest initiatives in the period of comparative advantage to rehabilitate the country's irrigation perimeters. A few bilateral aid agencies and NGOs have contributed to bringing back about ten percent of the schemes into production. The underlying problem remains that farmers must pay for the inputs and fees to tractor plow their irrigated plots. Women's swamp cultivation still accounts for most of the twenty thousand hectares currently in domestic rice production. They grow rice even on abandoned irrigation fields, broadcasting the seeds in expectation of the rain. But this is

where yields hover around 500 kilograms per hectare. In canalizing water for irrigation, development projects long ago removed these riparian wetlands from tidal flow. The loss of annual alluvial deposits over the past two decades has severely reduced their fertility and contributed to land degradation.

But a more sustainable development intervention is evident in the IFAD rice scheme, which implemented a tidal irrigation component and kept the improved fields under female control. The idea built upon the principles of the traditional floodplain cultivation system. In changing the emphasis of irrigation from pump to tidal gravity on one hundred hectares of the project, minor interventions were effected to improve water flow and the deposition of fertile alluvium. Even without fertilizers, yields still reach about one ton per hectare, which contribute to the subsistence security of female rice growers and their families.

Meanwhile, the botanical heritage of African *glaberrima* has been rescued in another development approach for poor rice farmers. The international agricultural research organization, the West African Rice Development Association (WARDA), recently announced success in overcoming the genetic barrier that long prevented crosses between Asian and African rice. The hybrid, known as *New rice for Africa* (or Nerica), combines the hardiness of *glaberrima* with the high productivity of *sativa*. Importantly, it delivers higher yields without fertilizers than the green revolution varieties currently available to farmers. This breeding breakthrough has occurred at a time when demand for rice has grown faster in West and Central Africa than anywhere else in the world, at the rate of 6% per annum (WARDA 2004). Imports to the region have increased eight-fold over the past three decades to more than three million tons a year, at a cost of about US \$ 1 billion (ISIS 2004). This represents a considerable loss of scarce foreign exchange to one of world's most impoverished regions. As the Institute of Science in Society observes, "rice, the staple food for more than half the world's population, among them the poorest, is now the current target of genetic modification, an activity that has greatly intensified after the rice genome was announced two years ago. Since then, all major biotechnology giants are investing in rice research" (ISIS 2004). The development of Nerica, in contrast, does not require seed purchases every year; it also lends support to the low-input rice systems typically cultivated by small farmers worldwide.

In 2002 The Gambia was among the West African countries selected for the dissemination of Nerica. The program is now in the implementation and seed reproduction stage (WARDA 2001; Harsch 2004). Varieties thus far available, however, are for upland cultivation, which is not the dominant form of rice growing in the country. In the 2004 agricultural season, the seeds were not yet in widespread distribution so claims for their productivity without fertilizer could not be assessed. If Nerica does revolutionize rice productivity in The Gambia and other West African countries, perhaps its success will encourage a reconsideration of the policy emphasis on milled imports and promote an articulation between rural rice farmers and urban consumers of the grain.

Conclusion

Policy documents focused on urban consumers fail to reveal the extent of the contemporary agrarian crisis in West African countries such as The Gambia. It is evident in declining yields, the feminization of agriculture, and the expansion of land in cultivation and concomitant degradation. Typically presented as the outcome of population increase and consumer preferences, the additional significance of the policy context, which favors imported rice over domestic production, should not be discounted. The current hold of neo-liberalism on the economies of countries like The Gambia has not weakened. There is no measure in place to protect domestic producers from the negative consequences of milled imports. Rural Gambia remains weakly attached to the remainder of the country because of poor roads, low commodity prices, and the indifference of global policy institutions to deteriorating circumstances.

The urban bias of rice policies supports neo-liberal reforms and claims that the market will solve food shortages. But they fail to bring attention to the effects of such policies on rural farmers in West Africa, where the majority of the population still resides. Coarse grain production is now the dominant land use pattern in the country. Even if coarse grains are not feeding the urban sector, its role has magnified in rural Gambia, chiefly due to the decline in fertilizer availability and related price increases. The rural poor should be as much a concern of policymakers as those living in urban areas, especially as they are more numerous. The presumed concern with urban consumers has worked against the domestic rice sector in The Gambia. One lesson from contemporary political instability in West Africa is its eruption first in rural areas. Policymakers who seek lasting solutions to Africa's food problems consistently ignore the needs of the rural poor; they do so to the detriment and suffering of millions.

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References

Akroyd, D. 2003. *Agriculture and Rural Development Planning: A Process in Transition* (Ashgate, UK: Ashgate Publishing Ltd.)

Brautigam, D. 1988. *Chinese Aid and African Development* (New York: St. Martin's Press).

Carney, J. 1988. "Struggles over Crop Rights and Labour within Contract Farming Households in a Gambian Irrigated Rice Project," *Journal of Peasant Studies*, 50(3): 334-349.

Carney, J. 1993. "Converting the Wetlands, Engendering the Environment: The Intersection of Gender with Agrarian Change in The Gambia," *Economic Geography*, 69(4): 329-349.

Carney, J. 2001. *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge, Mass.: Harvard University Press).

Carney, J. 2004 (2nd edition) "Gender Conflict in the Gambian Wetlands," in R. Peet and M. Watts (eds.) *Liberation Ecologies: Environment, Development, Social Movements* (New York: Routledge), pp. 316-335.

Center for Research on Economic Development (CRED) 1985. *Rural Development in the Gambian River Basin* (Ann Arbor: CRED).

Carney, J. and M. Watts 1991. "Disciplining Women? Rice, Mechanization, and the Evolution of Mandinka Gender Relations in Senegambia," *Signs*, 16 (4): 651-681.

Dey, J. 1981. "Gambian Women: Unequal Partners in Rice Development Projects?," *Journal of Development Studies*, 17: 109-22.

Ehret, C. 2002. *The Civilizations of Africa: A History to 1800* (Charlottesville: University Press of Virginia).

FAO (Food and Agriculture Organization) 1983. *Rice Mission Report to The Gambia* (Rome: FAO).

Government of The Gambia (GOG) 1974-2004. Sample surveys of agricultural production. Banjul: Central Statistics Dept.

GOG 1989-2003. Rice Imports data. Banjul: Gambia Ports Authority.

Harsch, E. 2004. "Farmers embrace African 'miracle' rice: High-yielding 'Nerica' varieties to combat hunger and rural poverty," *Africa Recovery*, January, pp. 10-15.

Haswell, M. 1963. *The Changing Patern of Economic Activity in a Gambian Village*. London: Her Majesty's Stationery Office.

Institute of Science in Society (ISIS) 2004. "Rice Wars" and "New Rice for Africa", July 28. <http://www.i-sis.org.uk/NRFA/php>

Jaiteh, Suruwa B. Wawa 2004. "Containing the Rice Crisis," *Daily Observer*, July 9, p. 6.

McIntosh, S.K. 1994. "Paleobotanical and Human Osteological Remains," *Excavations at Jenne-jeno, Hambarketolo and Kaniana in the Inland Niger Delta (Mali)*, S.K. McIntosh (ed.) (Berkeley: University of California Press), pp. 348-53.

McPherson, M. and J. Posner 1991. "Structural Adjustment in sub-Saharan Africa: Lessons from The Gambia," paper presented at the 11th annual symposium of the Association for Farming Systems Research-Extension, Michigan State University, East Lansing, Mich.

Pearson, Scott R. (ed.) 1981. *Rice in West Africa: Policy and Economics* (Stanford: Stanford University Press).

Portères, R. 1976. "African Cereals: Eleusine, Fonio, Black Fonio, Teff, Brachiaria, Paspalum, Pennisetum, and African Rice," *Origins of African Plant Domestication*, J. Harlan; J. De Wet; and A. Stemler (eds.), (The Hague: Mouton), pp. 409-452

Saine, Abdoulaye 2003. "The Gambia's Changing Political, Economic, and Social Landscape: A Regime(s) Performance Evaluation, 1994-2002," *Africa Insight* 33(3): 57-64.

Schroeder, R. 1999. *Shady Practices: Agroforestry and Gendered Politics in The Gambia* (Berkeley: University of California Press).

USDA 2004 *Rice Yearbook* (Washington, D.C.: USDA).

West African Rice Development Association (WARDA) 2001. http://www.riceweb.org/g_overwafrica.htm

WARDA 2004. <http://www.warda.org>

¹ The research in this paper is based on national data on agricultural production and fieldwork in June-July 2004.

² Data is supplied by the Central Statistics Department and Gambia Ports Authority and in the current economic crisis of the country, is likely not entirely accurate. However, it does reveal important trends. There no longer is a rural-based government monitoring and evaluation unit for agricultural production, as the economic recovery programs of the 1980s gutted it. Factors accounting for data anomalies in some years are the drought years 1987-88 and 2002 and the military coup d'état in 1994.

³ For example, Gambians claim they have not eaten if rice is not part of their meal.

⁴ Senegambia refers historically to Gambia and Senegal, which nearly surrounds it. Rhodes House mss., Afr.s 945, Oxford University.

⁵ *O. glaberrima* domesticated in the inland delta of the Niger River in Mali at least 4,000 years ago, with the Gambia an important secondary center of domestication (Portères 1976).

⁶ Irrigated rice projects also suffered from an astonishing lack of foresight and commitment by the donors to build a mechanical mill in the vicinity for processing the paddy. The only available mill was located north across the Gambia River. But there was no boat service from the rice station to the mill along this portion of the River. The paddy instead had to be transported by vehicle some distance to a ferry crossing, where trucks sometimes waited days to board, and then delivered to the mill. At the time there was not an all weather road from the mill on the north bank west to the coastal market. Two options were available: a grueling overland journey on the north bank that again depended on a ferry crossing before reaching its final urban destination or repeating the paddy's original journey across the river back to the south bank. From there the milled product would be trucked west to urban consumers, a half-day's journey. Perhaps the donors just thought women could add milling the rice by hand to their already overburdened farm labor. Hand milling is laborious work as it takes about 20 minutes of sustained pounding to process a kilogram of paddy (Carney 2001: 133-134).

⁷ However, Gambian irrigation projects are especially concentrated on the south bank of the River, where tidal floodplains are not affected by the marine saltwater than covers its lower 100 kilometers.

⁸ This was the case even though domestic figures are expressed in terms of paddy rice, with a twenty-five percent loss in milling.

⁹ Domestic rice figures are adjusted by 25% for milling.

¹⁰ Rice imports decreased in 1994, with the country's coup d'état, as well as in a few years when foreign monies provided fertilizers for rice development projects.

¹¹ Among the crops being promoted are genetically modified soybeans, cotton, and sesame. Sponsored by NGOs, bilateral aid agencies and in the case of GMO soybeans, a New Zealand entrepreneur, the projects offer farmers subsidized fertilizers.

¹² In fact, horticulture and tourism are favored by market reforms. It should be remembered that the U.S. is noted for its subsidies to the farm sector, even though the policies it supports favors dismantling them elsewhere. Thus U.S. is ranked among the top six rice-exporting countries in the world (USDA 2004).

¹³ Migration of young men to North Africa, Saudi Arabia and Europe is also paramount. Seventy to eighty thousand Gambians, principally male, are now living outside the country and contributing remittances, which are conservatively estimated at \$30 million a year. One new symbol of globalization is the presence of a West Union office near the capital, which opened just a few years ago (Saine 2003).

Figure 1 Gambian Rice Imports and Domestic Production

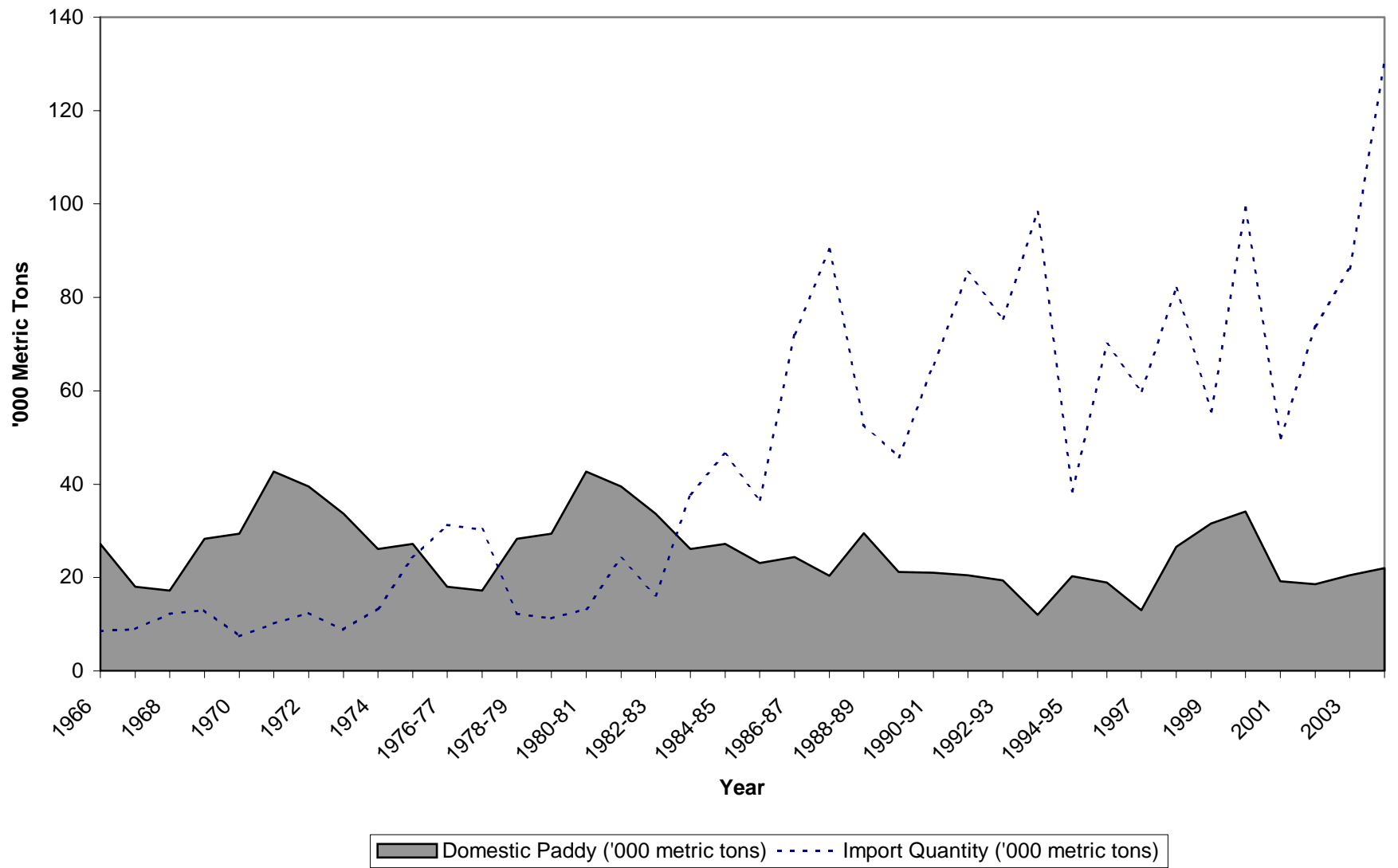


Figure 2 Gambian Rice: Domestic Self-Sufficiency

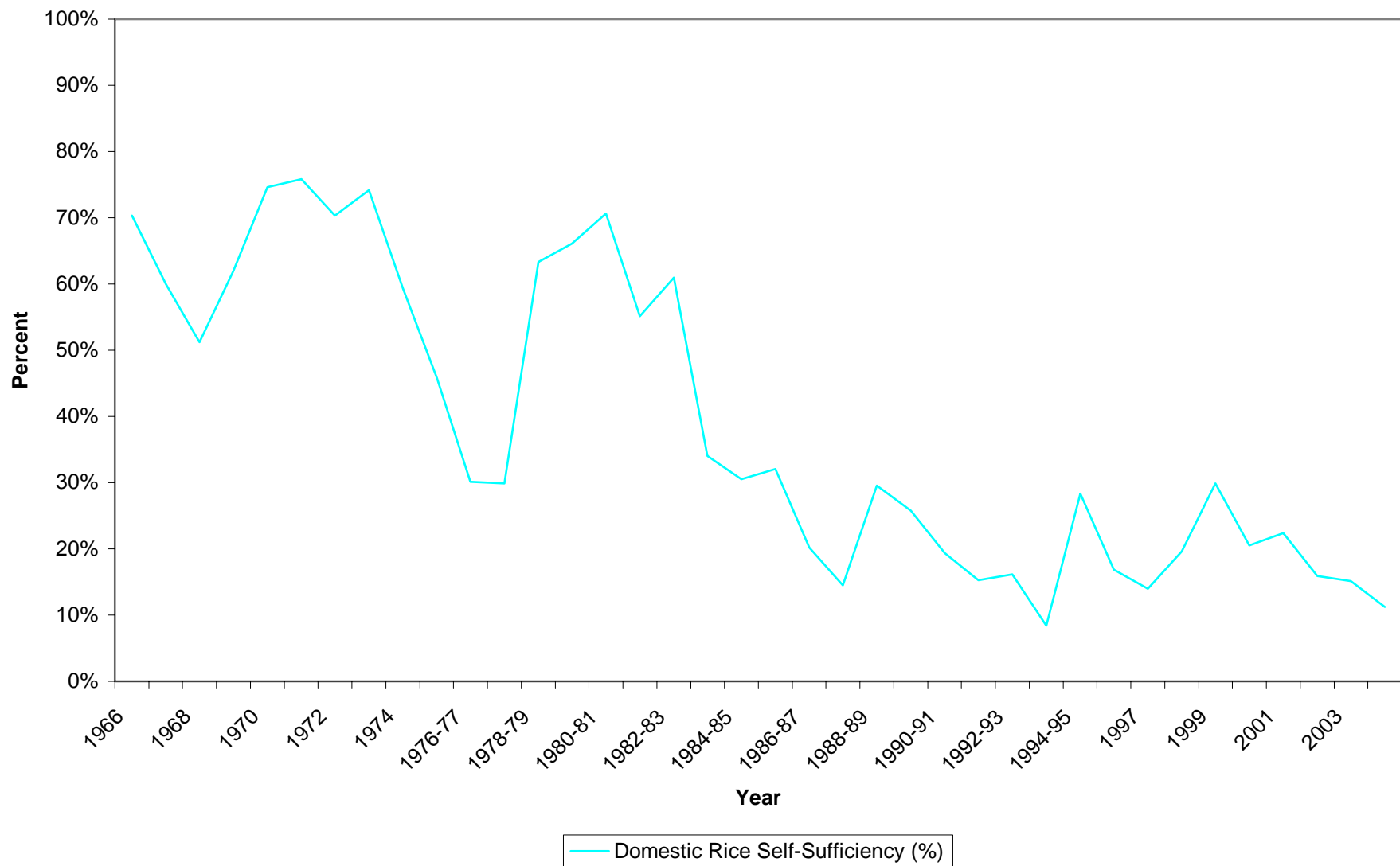


Figure 3 Area Under Cultivation by Crop, Selected Years

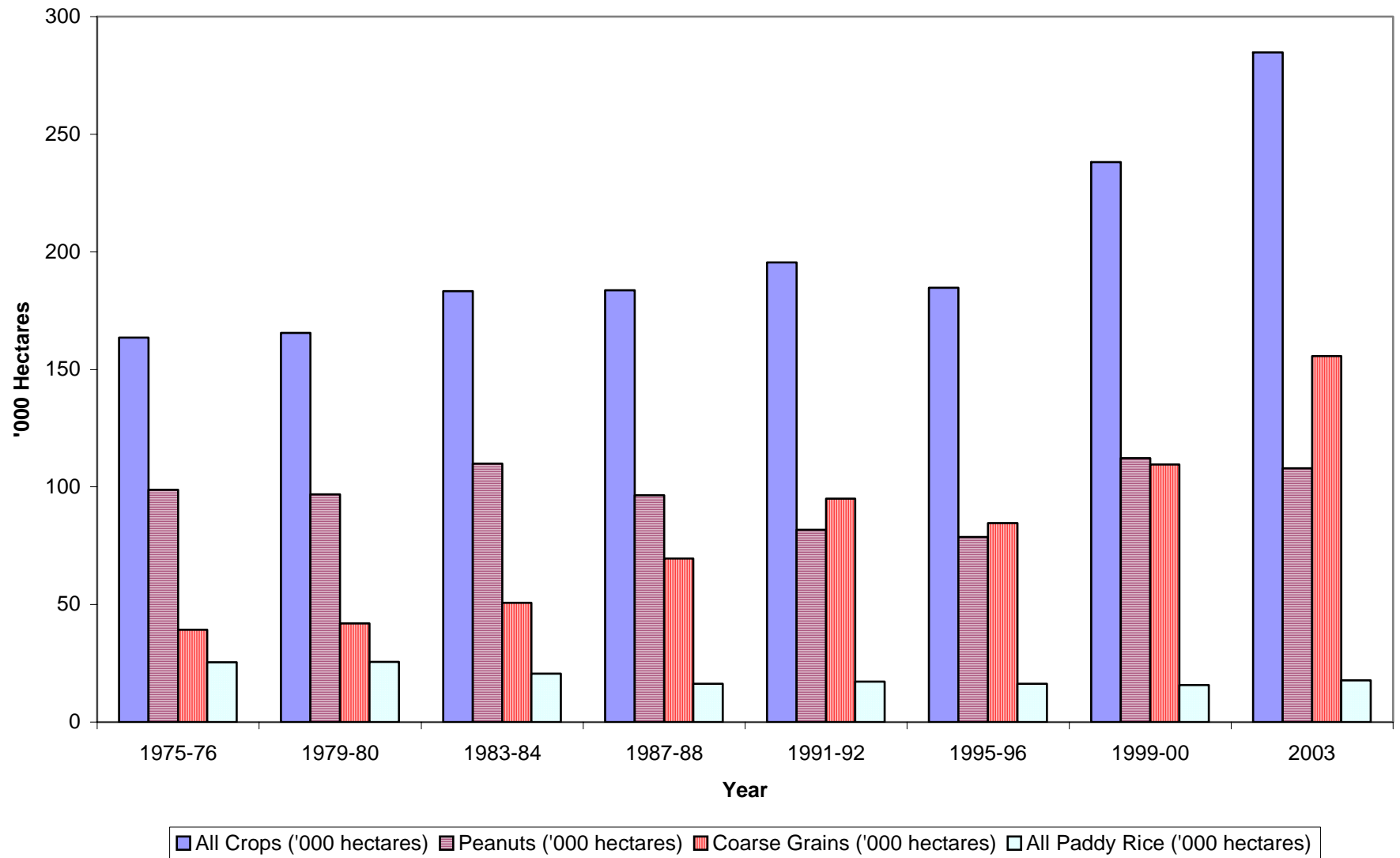


Figure 4 Area Under Cultivation: Rice and Coarse Grains

