



Africa Rice Trends

Africa Rice Center (WARDA)

2007 Brief

Overview of recent developments in the sub-Saharan African rice sector

This brief is a summary of the 2007 Africa Rice Trends full publication that will be published by WARDA in December 2007, and provides an overview of the rice sector in sub-Saharan Africa (SSA), by synthesizing its development in terms of production, consumption, imports and self-sufficiency measured as the ratio of production over consumption; with a focus on the 2001–2005 period. Relative changes in key aggregate indicators such as harvested area and land productivity are presented to highlight the most salient features of the SSA rice sector. Data utilized to calculate the indicators in this brief were retrieved online from FAOSTAT and USDA websites.

Characterization of the overall rice sector in SSA is complex due to the variable status conferred on rice by African consumers, the great diversity of ecosystems within which the crop is grown (upland, rainfed lowland, irrigated lowland, mangrove swamp, etc.), the different rice production technologies used, and widely differing government policies. Moreover, factors affecting the global rice sector, i.e. the increasing interlinkages among global agricultural economies and the net importer status of SSA, have a strong bearing on the rice sector in SSA. For instance, current market developments do not bode well for food security in SSA. Global rice consumption has been outstripping global rice production since 2002. This is causing a gradual drop in globally-held rice inventories and is coupled with rising rice prices in the global market. The current market situation has the potential of further complicating the food security equation in many SSA countries.

Many SSA countries have made significant strides towards increasing their rice production by encouraging the adoption of new and improved varieties but mostly through area expansion and extensification. Initiatives currently underway in several countries – most significantly in Nigeria – are contributing to what is likely to become a trend of increasing production in SSA. Sustained high prices for rice in the international market will bolster these initiatives but this brief also highlights how consumption of rice in Africa continues to outstrip production.

West Africa remains at the hub of rice production in sub-Saharan Africa but the shortfall in rice production has increased significantly as consumption rises at a rate well above that of production growth. Southern Africa is experiencing the greatest rises in consumption of rice but only Mozambique is a significant producer of home-grown rice.

In East Africa, Madagascar, the Comoros and Tanzania can be numbered among the world's leading rice-consuming nations but only Madagascar can claim anything like self-sufficiency.

There are some signs from the reported figures that the end of regional conflicts can also signal a return to rice production. The evidence from the 2001–2005 statistics shows a recovery in production and in consumption in several post-conflict countries.

Production: In 2006, paddy rice production in SSA was estimated at 14.2 million tonnes (Table 1). Rice production in SSA grew at 3.23% per annum from 1961 to 2005. This *growth rate* was higher than the yearly population growth rate of 2.90% during the same period.

Sub-region	1970s	1980s	1990s	2001–05	2006†
West Africa	2.73	4.50	6.73	7.55	9.32
Central Africa	0.23	0.36	0.44	0.45	0.48
Eastern Africa	2.41	2.81	3.36	3.89	4.60
Southern Africa	0.12	0.11	0.15	0.18	0.20
SSA	5.49	7.78	10.69	12.07	14.20

† Estimate obtained by multiplying production level in 2005 by the average growth rate of production during the previous decade.

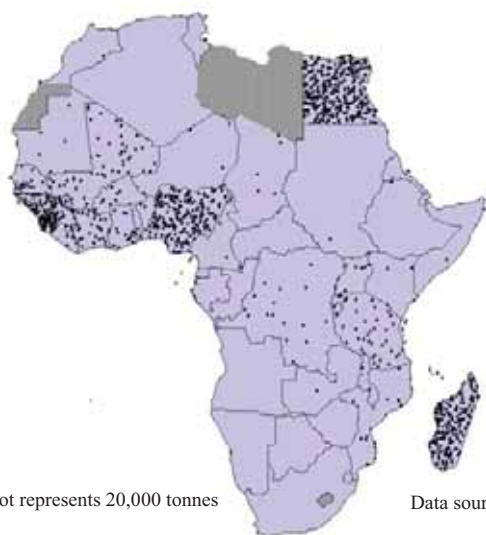


Figure 1. Paddy rice production in 2006

Over the five years (2001–2005), expansion of rice production stepped up, with an average yearly growth rate of 5.81%. The average quantity of milled rice produced in SSA during 2001–2005 was 8.1 million tonnes¹ per year. West Africa and East Africa are the main rice-producing sub-regions in SSA (Figure 1). These two sub-regions account for 95% of the total rice produced in SSA. But, the Southern Africa sub-region had the highest rate of production expansion since the 1990s (Figure 2).

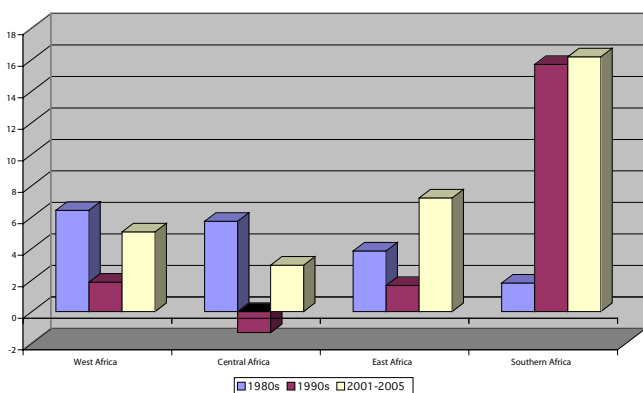


Figure 2. Production growth rates (%)

Harvested rice area and yield trends in SSA: Sub-Saharan Africa harvested an average of 7.86 million hectares of rice per year during 2001–2005, with 3.29% per annum growth rate. The expansion in total area cultivated explains much of the increase in production, as the average annual growth of aggregate rice yield was negative (–1.14%) and average yield² stood at 1.51 t/ha (see Table 2).

Sub-region	Yield (t/ha)	Harvested area (million ha)
West Africa	1.62	4.66
Central Africa	0.96	0.47
Eastern Africa	2.20	1.77
Southern Africa	0.91	0.19
SSA	1.51	7.86

The rate of growth of harvested area has been faster than the rate of yield increase – this is consistent with the historical pattern of rice-sector dynamics in SSA, where increase in total output is driven mainly by extensification, i.e. bringing more land into rice cultivation. The limited growth of the aggregate productivity of rice is due to the large share of rainfed rice and subsistence-based rice farming systems. Rainfed production systems (upland and lowland) account for 63% of rice planted areas in SSA compared to 37% worldwide.

The low aggregate yield figures do, however, suggest a strong and mostly untapped potential for boosting the productivity of rice in SSA, should the region apply the appropriate technologies and adopt an enabling rice policy environment. The current surge in rice price in the international market should give new impetus for enhancing investment in the rice sector in order to expand production and reduce reliance on imports.

Consumption: Among the major cereals, rice is the most rapidly growing food source on the continent. Between 1961 and 2005, the annual increase in rice consumption was 4.52% in SSA – mostly faster than rice production growth during the same period. In 2006, the total quantity of milled rice consumed in SSA was 14.7 million tonnes.

During 2001–2005, rice consumption in SSA grew at 5.84% per year. This positive development in rice consumption can be largely attributed to strong demand in Southern and West Africa, where rice consumption grew (on average) at 11.58% and 6.55% per year, respectively (Figure 3). Average per-capita rice consumption in SSA was 18 kg/year in 2001–2005.

¹Using a milled–paddy rice conversion factor of 0.67.

²A caveat is warranted regarding the interpretation of rice yield data in Africa, because it constitutes an average across all rice-growing ecologies: the high predominance of upland rice farming substantially lowers aggregate rice yield in Africa.

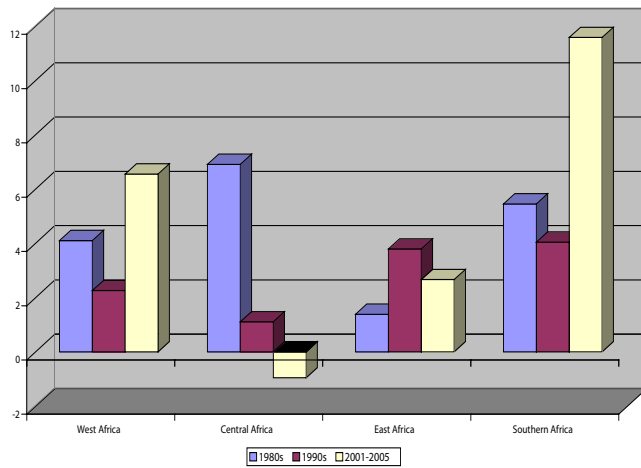


Figure 3. Rice consumption growth rates (%)

Sub-region	Yield (% change)	Harvested area (% change)
West Africa	0.20	4.84
Central Africa	2.78	0.16
Eastern Africa	6.73	0.45
Southern Africa	11.19	4.49
SSA	2.13	3.29

Self-sufficiency: The self-sufficiency ratio in rice in SSA, measured by the ratio of production over consumption, declined steadily from 112% in 1961 to 61% in 2006, when the continent relied on the international rice market to satisfy about 39% of its rice consumption needs. Figures 4, 5 and 6 illustrate, respectively, the country-level rice self-sufficiency, major rice importing countries, and the widening gap between rice production and consumption in SSA.

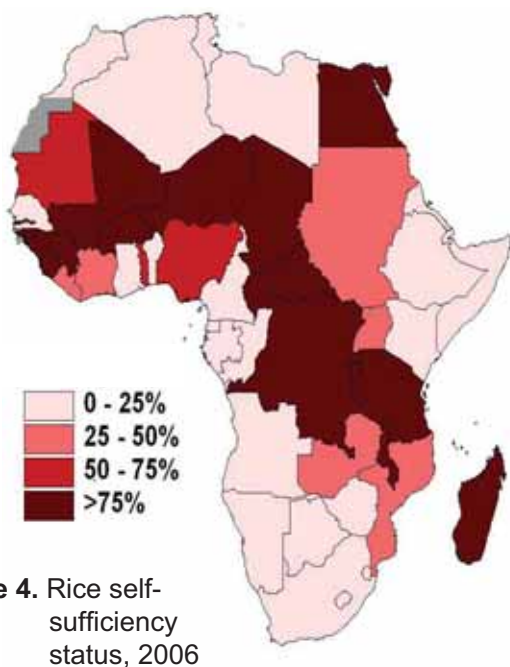


Figure 4. Rice self-sufficiency status, 2006

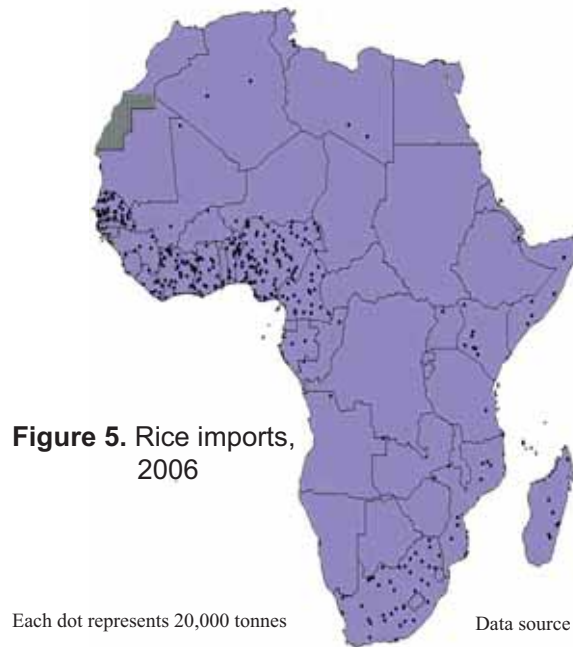


Figure 5. Rice imports, 2006

Each dot represents 20,000 tonnes

Data source FAO

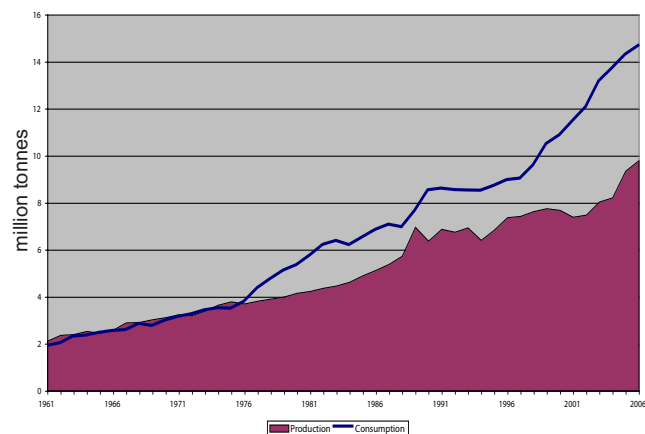


Figure 6. Rice production (milled equivalent) and consumption in SSA, 1961–2006

At 3.18% per annum from 1961 to 2006, rice production average growth rate in SSA has been higher than the yearly average population growth rate of 2.90% but substantially lower than the rice consumption growth rate, which has been increasing steeply at 4.52% per annum. This explains the widening rice supply gap and the growing imports of rice into SSA to bridge strong demand for rice.

Outlook for 2007: The production outlook appears favorable, as the *FAO Rice Monitor* edition of June 2007 forecasts that paddy production for the 2007 rice campaign will reach 22.1 million tonnes. This will mark the sixth consecutive year of production increase in Africa. The fact that production increases in the past two years are attributed to “positive effects of the adoption of NERICA rice varieties” and “strong institutional support” in some rice-producing countries such as Nigeria underscores the qualitative progress that the African rice sector is accomplishing. Moreover, rising rice prices may have provided sufficient incentive to further increase rice planting.

Overview of recent developments in West Africa

Production: In 2006, West Africa produced 6.24 million tonnes of milled rice and had a yearly average of 5.06 million tonnes of white rice produced over the period 2001–2005 (Table 4). Paddy production accounted for 65% of total rice produced in SSA during 2001–2005. In fact, rice production in West Africa more than doubled in 20 years, from 2.76 million tonnes in 1985 to 5.75 million tonnes in 2005 (milled-rice equivalent).

Country	1970s	1980s	1990s	2001–2005
Benin	7.25	5.57	15.38	42.65
Burkina Faso	25.90	27.32	51.71	61.97
Cameroon	23.48	47.67	29.78	34.38
Chad	24.92	25.83	65.67	82.12
Côte d'Ivoire	290.58	355.06	453.54	444.60
The Gambia	19.10	17.86	13.87	16.63
Ghana	52.87	48.10	125.20	177.18
Guinea	266.77	411.24	633.95	770.41
Guinea Bissau	30.22	68.67	75.76	57.20
Liberia	157.38	186.76	82.62	75.17
Mali	122.39	147.15	377.07	569.13
Mauritania	2.99	23.16	44.74	49.95
Niger	20.47	38.09	42.35	49.23
Nigeria	357.24	1177.95	2086.25	2103.40
Senegal	62.20	94.56	116.98	146.33
Sierra Leone	356.73	329.84	255.06	336.06
Togo	10.41	13.29	39.72	45.07
West Africa	1830.90	3018.13	4509.65	5061.48

The aggregate performance of rice production in West Africa, measured by the average annual growth rate of rice production, was substantial (5.06%) during 2001–2005. Production expansion in West Africa grew faster than the overall growth rate of production on the continent. But, with annual rice consumption increasing at 6.55% – well above production growth rate over the 2001–2005 period – the shortfall in local rice production in West Africa has increased significantly. As a result, the main rice producing and consuming sub-region of the continent imports up to 42% of its consumption requirements via the international market.

The growth rate of production increased the most in Sierra Leone, followed by Senegal, Benin, Nigeria and Guinea (Table 5). Largest negative growth rates in production were recorded in Liberia, The Gambia, Niger and Burkina Faso.

Table 5. Growth rates (%) of yield, harvested area and production, 2001–2005

Country	Yield	Area	Production
Benin	7.24	-0.11	7.13
Burkina Faso	-3.38	-1.56	-4.89
Cameroon	-14.58	14.72	-2.01
Chad	-1.88	3.68	1.73
Côte d'Ivoire	2.45	0.06	2.51
The Gambia	-15.53	10.06	-7.03
Ghana	2.23	-2.75	-0.58
Guinea	0.55	4.76	5.34
Guinea Bissau	4.79	-1.61	3.10
Liberia	-6.43	-1.59	-7.92
Mali	0.43	-0.22	0.21
Mauritania	-2.68	8.08	5.17
Niger	2.94	-7.64	-4.92
Nigeria	2.52	4.08	6.70
Senegal	4.68	3.02	7.84
Sierra Leone	-7.96	28.59	18.35
Togo	1.99	0.62	2.62
West Africa	0.20	4.84	5.06

Yield and harvested rice area: During 2001–2005, West Africa recorded a positive rate of harvested area expansion and a marginal rate of yield expansion. Thus, rice production increase is mainly attributable to the opening of new land. Although production increases in West Africa have been driven mainly by area expansion, cultivated areas actually decreased in Benin, Burkina Faso, Ghana, Guinea Bissau, Liberia and Niger. In most countries, area expansion has coincided with a drop in yield. In Nigeria and Senegal, substantial improvement was recorded in the growth rate of area harvested and yield.

Per-annum rice yield exhibited positive rates of increase in 10 West African countries; while seven countries had negative yield progression during 2001–2005. Strong rice yield increases were recorded in Benin, Guinea Bissau, Senegal, Niger and Nigeria. Substantially negative changes of land productivity (i.e. yield) were recorded in The Gambia, Cameroon, Sierra Leone, Liberia and Burkina Faso (Table 5). Rice yield in West Africa tends to be highly variable and generally higher in the Sahel owing to the larger share of irrigated rice area (Table 6). From the 1980s to 2001–05, eight countries recorded steady improvement in aggregated rice yield: Benin, Côte d'Ivoire, Ghana, Guinea, Mali, Niger, Senegal and Togo.

Consumption: In 2006, West Africa consumed 9.87 million tonnes of rice. During 2001–2005, rice consumption increased annually at 6.55%, well above production growth rate over the same period. Using an arbitrary threshold of 45 kg per-capita rice consumption (Figure 7), West African countries can be divided into two groups: a group of countries in which annual per-capita rice consumption could be considered low (less than 45 kg) and another group of countries in which yearly rice consumption is high (more than 45 kg per capita). Rice consumption growth rate tended to increase faster in coastal countries.

Country	1980s	1990s	2001–05
Benin	1.19	1.71	2.39
Burkina Faso	1.72	2.10	1.81
Cameroon	4.23	3.36	1.57
Chad	1.17	1.50	1.25
Côte d'Ivoire	1.16	1.36	1.95
The Gambia	1.63	1.53	1.89
Ghana	1.11	1.87	2.15
Guinea	1.71	1.71	1.74
Guinea Bissau	1.53	1.74	1.32
Liberia	1.24	1.15	0.92
Mali	1.17	1.86	2.03
Mauritania	4.53	3.66	4.28
Niger	2.60	2.93	3.07
Nigeria	2.08	1.69	1.38
Senegal	1.98	2.35	2.52
Sierra Leone	1.33	1.26	2.42
Togo	0.99	1.69	2.13
West Africa	1.59	1.64	1.62

Country	1980s	1990s	2001–2005
Benin	9.09	-3.06	46.87
Burkina Faso	10.22	4.68	-5.91
Cameroon	6.24	3.84	19.93
Chad	10.26	1.60	0.78
Côte d'Ivoire	4.17	0.99	7.46
The Gambia	1.61	-0.16	-2.94
Guinea	0.89	3.23	1.71
Guinea Bissau	2.68	0.65	1.16
Liberia	-1.00	-2.28	-0.16
Mali	6.37	8.10	14.03
Mauritania	8.01	5.40	-2.89
Niger	4.16	-1.12	-14.24
Nigeria	4.22	3.39	5.08
Senegal	3.60	3.25	0.11
Sierra Leone	2.47	-1.72	4.64
Togo	15.89	-4.42	-0.70
West Africa	4.10	2.25	6.55

Data problems and unofficial re-exports from coastal to landlocked Sahelian countries might explain rapid consumption growth in countries such as Benin and the modest consumption in Niger and Burkina Faso (Table 7).

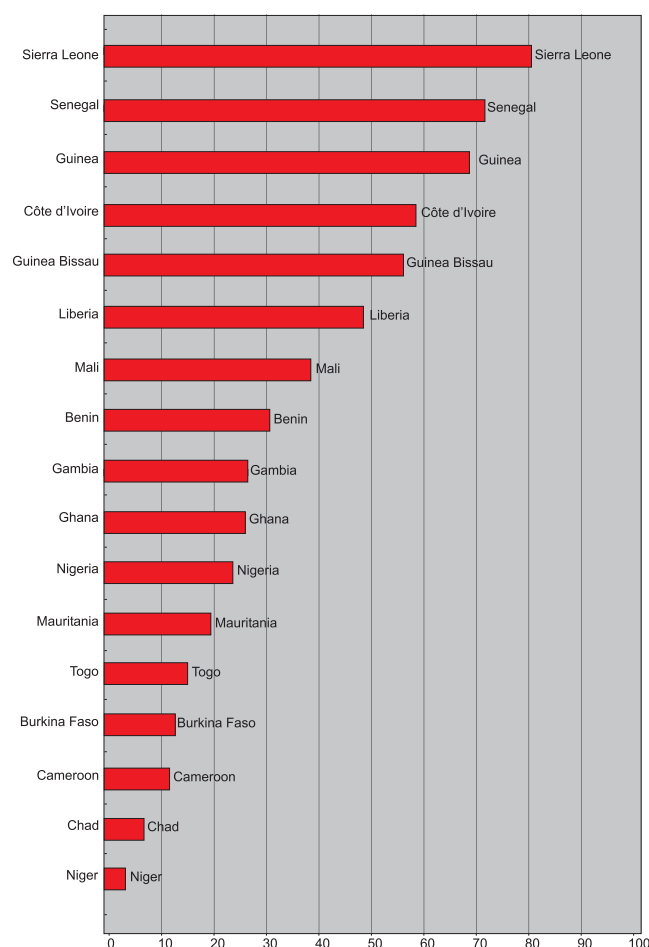


Figure 7. Per-capita rice consumption in West Africa (kg/year) during 2001–05

Self-sufficiency ratio: The sub-regional self-sufficiency ratio was 58% during 2001–2005. Three countries (Chad, Guinea and Niger) appeared to be self-sufficient in rice. The countries with the lowest self-sufficiency ratio were Senegal (18%), Cameroon (19%) and Benin (23%). Compared to the 1990s, the self-sufficiency ratio in rice improved for eight countries, while nine countries witnessed a drop in their ratio of production over consumption. The best performers in terms of improvement in self-sufficiency were Niger and Mauritania.

Country	1980s	1990s	2001–05
Benin	0.13	0.18	0.23
Burkina Faso	0.33	0.32	0.36
Cameroon	0.57	0.29	0.19
Chad	0.71	1.04	1.18
Côte d'Ivoire	0.54	0.74	0.42
The Gambia	0.30	0.27	0.39
Ghana	0.47	0.61	0.33
Guinea	1.39	1.23	1.28
Guinea Bissau	0.84	0.90	0.66
Liberia	0.74	0.64	0.45
Mali	0.82	1.13	0.80
Mauritania	0.27	0.38	0.67
Niger	0.55	0.65	1.10
Nigeria	0.87	0.93	0.64
Senegal	0.22	0.20	0.18
Sierra Leone	0.96	0.65	0.79
Togo	0.37	0.39	0.48
West Africa	0.71	0.76	0.58

Overview of recent developments in Central Africa

Production: In Central Africa, milled rice production averaged 300,000 tonnes from 2001–2005 and was estimated at close to 321,000 tonnes for 2006. Rice is not the region's main staple food, yet its production has increased by more than 90% since the 1970s. The leading paddy rice producer in Central Africa is the Democratic Republic of Congo with slightly over 315,000 tonnes (Table 9). Considerable increase in rice production was observed in Rwanda (42.68%), Central African Republic (6.19 %) and Burundi (2.51 %) during the 2001–05 period (Table 10).

Country	1970s	1980s	1990s	2001–2005
Burundi	4.44	15.41	29.75	42.52
Central African Rep	7.50	8.63	9.12	19.48
Congo, Dem Rep	140.01	209.24	250.55	212.50
Congo, Rep	2.98	0.98	0.86	0.88
Gabon	0.43	0.46	0.55	0.67
Rwanda	1.85	4.64	6.53	23.16
Central Africa	157.2	239.36	297.35	299.22

Country	Yield	Area	Production
Burundi	1.82	0.68	2.51
Central African Rep	-0.21	6.41	6.19
Congo, Dem Rep	0.00	-0.63	-0.63
Congo, Rep	-0.17	-0.33	-0.51
Gabon	-0.26	0.28	0.02
Rwanda	9.45	30.36	42.68
Central Africa	2.78	0.16	2.94

Yield and harvested rice area: The sub-regional yield and area growth were, respectively, 2.78% and 0.16% for the period 2001–05. The average harvested area and yield were estimated, respectively, at 466,000 hectares and 0.96 tonne per hectare. Rwanda showed the strongest positive annual growth rate of 30.36% in rice harvested area as well as in improvement (9.45%) of paddy yield. For instance, rice yield in Rwanda increased from 2.49 t/ha in the 1980s to 3.65 t/ha during 2001–2005. Due to greater area and to yield growth, rice production also increased in Burundi, but for the remaining countries the evolution of yield and area devoted to rice was variable. In Central African Republic, area expansion explains the relatively high production growth. In the Congo Republic, both area and yield recorded negative rates of expansion.

Consumption: In 2006 the estimated quantity of milled rice consumed in Central Africa region was 397,100 tonnes. Owing to the downturn in rice consumption in the Democratic Republic of Congo, the sub-regional consumption pattern displayed a negative trend even though rice consumption growth rate increased remarkably in countries such as Burundi, Gabon and Rwanda.

The sub-regional per-capita consumption of rice was 3.36 kg/year during 2001–05. Gabon and the Republic of Congo have the highest per-capita rice consumption levels with, respectively, 37.2 kg/year and 16.7 kg/year (Figure 8).

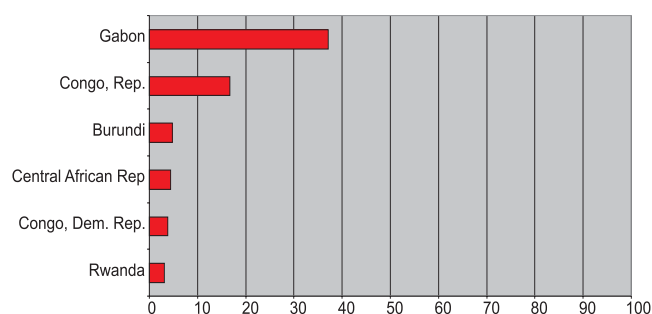


Figure 8. Per-capita rice consumption in Central Africa (kg/year) during 2001–05

Country	1980s	1990s	2001–05
Burundi	20.61	5.31	4.60
Central African Rep	1.36	5.59	2.85
Congo, Dem Rep	6.35	-1.25	-2.94
Congo, Rep	6.70	8.62	-5.14
Gabon	9.63	3.23	3.30
Rwanda	1.03	-0.20	5.39
Central Africa	6.91	1.10	-0.96

Source: FAOSTAT, last accessed 17 September 2007.

Self-sufficiency ratio: Rice self-sufficiency ratio varies hugely among Central African countries. On the one hand, rice production in Burundi, the Central African Republic and Democratic Republic of Congo has the potential to fully satisfy domestic consumption requirements during 2001–05, while on the other hand a negligible proportion of locally-produced rice is consumed in Gabon and in the Republic of Congo. A quarter of the sub-regional rice consumption requirements was imported through the international market during 2001–05.

Country	1980s	1990s	2001–05
Burundi	1.23	1.23	1.25
Central African Rep	0.93	0.90	1.14
Congo, Dem Rep	0.90	1.00	0.98
Congo, Rep	0.10	0.03	0.02
Gabon	0.04	0.02	0.01
Rwanda	0.46	0.42	0.84
Central Africa	0.83	0.81	0.75

Overview of recent developments in East Africa

Production: The average annual milled rice production was 2.6 million tonnes in the period 2001–2005 (Table 13). In 2006, the milled rice production estimate for East Africa is 3.1 million tonnes, with Madagascar and Tanzania accounting for 2.3 million tonnes and 525,300 tonnes, respectively, bearing out the strong upward trend in production which grew at a laudable rate of 7.21% during the same period. Except for Malawi, all countries increased annual rice production, resulting in a higher rice production growth rate in Eastern Africa than those of Central Africa and West Africa. The region's performance was due to increases in rice production in Kenya, Tanzania, Uganda and Madagascar. A notable hike in production was recorded in countries such as Sudan and Somalia.

Country	1970s	1980s	1990s	2001–05
Comoros	7.64	8.99	11.29	11.50
Kenya	24.56	30.19	31.58	32.49
Madagascar	1333.37	1460.22	1655.21	1942.52
Malawi	42.04	23.80	41.34	49.99
Somalia	4.16	8.56	2.92	7.44
Sudan	5.39	1.87	2.12	12.16
Tanzania	184.05	329.54	446.29	456.97
Uganda	12.40	17.29	54.47	85.76
East Africa	1613.61	1880.46	2245.22	2598.83

Strong positive production growth rates between 2001 and 2005 were recorded in Sudan (31%), Tanzania (12.24%), the region's largest producer Madagascar (6.6%) and Uganda (6.15%), perhaps reflecting resumption of rice production in areas previously unsafe for agricultural activities.

Yield and harvested rice area: The total area brought under rice cultivation in East Africa was slightly greater than 1.7 million hectares over the period 2001–2005 and it increased at an annual rate of 0.45% (Table 14). In relative terms, Uganda had the highest increase in cultivated land area, with an area growth rate of 7.67% per year.

East Africa recorded a remarkably high rate of increase in yield during 2001–2005, at 6.73% per year. Aggregate rice yield averaged 2.20 tonnes/ha during 2001–2005.

Country	Yield	Area	Production
Comoros	0.34	0.42	0.77
Kenya	3.66	4.02	7.83
Madagascar	5.78	0.79	6.62
Malawi	-11.79	-5.88	-16.97
Somalia	24.32	1.68	27.51
Sudan	26.25	3.76	30.99
Tanzania	14.03	-1.57	12.24
Uganda	-1.41	7.67	6.15
East Africa	6.73	0.45	7.21

Consumption: In 2006 milled rice consumption is estimated to reach 3.1 million tonnes in East Africa. During the five-year period of 2001–05, the average annual consumption of milled rice was 2.8 million tonnes in East Africa. But robust increases in rice consumption in the Comoros, Kenya, Sudan and Tanzania more than offset the negative growth of rice consumption in Tanzania and Madagascar (Figure 9). Overall the sub-regional rice consumption grew at a relatively high speed of 2.66% per year (Table 15). On a per-capita consumption basis, Madagascar, Comoros and Tanzania noticeably stand out as the major rice-consuming nations in the world. With per-capita consumption of nearly 100 kg/year, rice is by far the main staple in Madagascar.

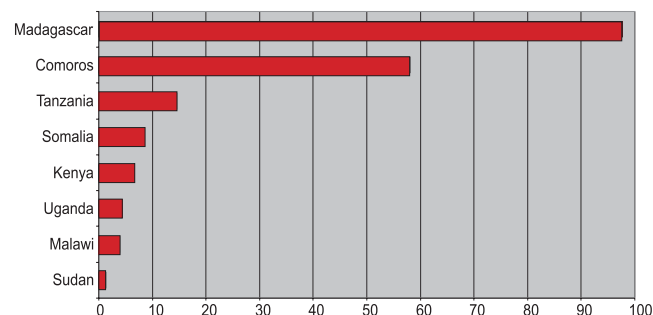


Figure 9. Per-capita consumption of rice in East Africa (kg/year) during 2001–05

Country	1980s	1990s	2001–05
Comoros	-10.44	26.40	11.29
Kenya	-0.02	3.12	3.03
Madagascar	5.99	9.19	-15.12
Malawi	2.98	6.69	8.53
Somalia	-1.56	-1.39	1.53
Sudan		-11.97	6.62
Tanzania	9.13	5.65	-1.19
Uganda	4.44	13.35	5.04
East Africa	1.38	3.79	2.66

Self-sufficiency ratio: During 2001–05, East Africa was nearly self-sufficient in rice, with rice imports representing 7% of the total quantity consumed. Unlike other sub-regions of Africa, East Africa traditionally produced most of the rice it consumed. Madagascar is apparently self-sufficient in its most important staple food crop.

Country	1980s	1990s	2001–05
Comoros	0.28	0.29	0.27
Kenya	0.98	0.42	0.16
Madagascar	1.16	1.25	1.13
Malawi	1.16	1.11	0.97
Somalia	0.11	0.03	0.13
Sudan		0.06	0.26
Tanzania	0.94	10.3	0.86
Uganda	0.85	0.95	0.76
East Africa	1.03	1.04	0.93

Overview of recent developments in Southern Africa

Production: Southern Africa sub-region produced 118,270 tonnes of milled rice over the period of 2001–2005 with an annual growth rate of 16.18 %. In this region, Mozambique is the leading rice producing country with an average paddy production of 102,200 tonnes over 2001–2005 (Table 17).

Country	1970s	1980s	1990s	2001–2005
Angola	12.93	3.75	6.78	5.33
Mozambique	57.67	58.78	83.47	102.20
South Africa	1.94	2.01	2.00	2.13
Swaziland	3.38	1.79	0.67	0.08
Zambia	1.02	5.91	7.78	8.13
Zimbabwe	0.55	0.26	0.29	0.39
Southern Africa	77.49	72.51	101.00	118.27

Yield and harvested rice area: Out of a total harvested rice area of 204,000 hectares in 2005, Mozambique accounted for 180,000 hectares. On average, 192,000 hectares of paddy rice were harvested during 2001–2005, with an upward growth rate of 4.49%. Angola (40.84%), Mozambique (3.38%) and Zambia (2.26 %) showed substantial positive growth rates for harvested rice areas. As in West and Central Africa, rice production in the Southern Africa region is plagued by low yield. The aggregate rice yield has historically been less than 1 tonne per hectare (Table 18).

Country	1980s	1990s	2001–05
Angola	0.81	1.36	1.13
Mozambique	0.86	0.82	0.87
South Africa	2.31	2.30	2.28
Swaziland	6.29	5.20	3.54
Zambia	0.97	0.99	1.22
Zimbabwe	1.75	2.15	2.34
Southern Africa	0.90	0.88	0.91

Consumption: During 2001–05 period, rice consumption in Southern Africa accelerated at a double-digit growth rate of 11.6%. Such dramatic increase in rice consumption illustrates that rice is occupying an increasing role in people's diets in Southern Africa. Mozambique and South Africa have the highest per-capita consumption of rice at 14 kg/year.

Country	1980s	1990s	2001–05
Angola	5.03	-7.28	29.13
Mozambique	1.63	3.96	25.09
South Africa	7.84	5.90	5.28
Swaziland	20.97	0.20	-22.19
Zambia	-0.33	4.75	11.95
Zimbabwe	9.24	3.79	0.00
Southern Africa	5.45	4.04	11.58

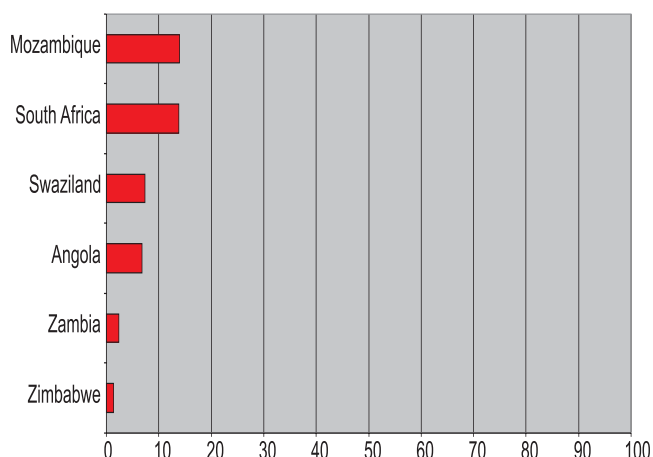


Figure 10. Per-capita rice consumption (kg/year) in Southern Africa during 2001–05

Self-sufficiency ratio: With a sufficiency ratio of 11% during 2001–05, the southern sub-region has the largest proportion of reliance on the international rice imports market. Except for Mozambique and Zambia, rice imports represent more than 90% of domestic consumption requirements. Practically all rice consumed in South Africa is sourced from the international market.

Country	1980s	1990s	2001–05
Angola	0.07	0.13	0.06
Mozambique	0.45	0.61	0.41
South Africa	0.01	0.00	0.00
Swaziland	0.69	0.08	0.01
Zambia	0.65	0.66	0.32
Zimbabwe	0.03	0.02	0.02
Southern Africa	0.17	0.15	0.11

Major rice exporters to Africa in recent years

The global rice export market is thin, with only 7% of global production traded on the international market. The global rice market is also characterized by its high level of concentration with the five leading rice exporters (Thailand, Vietnam, India, the USA and Pakistan) accounting for more than 66% of global rice exports, and the 10 leading exporters more than 90% of the total shipped rice (FAO). Since African rice imports represent a third of the total quantity traded on the global market, all the major rice exporters value the African market. However, it is Thailand which provides the lion's share of rice shipped to Africa. Apart from Thailand, the continent's main rice suppliers are China, Pakistan, the USA, India and Vietnam (Table 21). And, there are four African countries among the 10 largest rice importers in the world (Table 22).

Exporter	No. importing African countries	2000	2001	Average 2000–2002	Share of total rice exports to Africa (%)
Thailand	38	2 558 600	3 546 100	3 063 350	60
China	16	1 077 900	1 077 900	1 090 600	22
Pakistan	39	331 500	534 500	450 200	9
USA	27	206 100	203 400	213 600	4
India	10	91 000	194 900	145 250	3
Vietnam	9	105 100	28 600	105 250	2
Total	–	4 395 600	5 585 400	5 068 250	100

Source: FAOSTAT 2005.

Country	Import quantities (million tonnes)
Philippines	1.90
Nigeria ³	1.60
Iran	1.20
Iraq	1.20
Saudi Arabia	1.00
Indonesia	0.90
Côte d'Ivoire	0.85
Malaysia	0.85
South Africa	0.80
Senegal	0.75

Source: USDA 2007.

³In the July 2007 edition of FAO Rice Monitor, Nigeria and Philippines tied as the world's largest rice importing countries in 2006 with 1.8 million tonnes each.

About Africa Rice Center (WARDA)

Africa Rice Center (WARDA) is an autonomous intergovernmental research association of African member states. WARDA is also one of the 15 international agricultural research Centers supported by the Consultative Group on International Agricultural Research (CGIAR).

WARDA's mission is to contribute to poverty alleviation and food security in Africa through research, development and partnership activities aimed at increasing the productivity and profitability of the rice sector in ways that ensure the sustainability of the farming environment.

The modus operandi of WARDA is partnership at all levels. WARDA's research and development activities are conducted in collaboration with various stakeholders— primarily the national agricultural research systems (NARS), academic institutions, advanced research institutions, farmers' organizations, nongovernmental organizations and donors—for the benefit of African farmers, mostly small-scale producers, as well as the millions of African families for whom rice means food.

The New Rice for Africa (NERICA®), which is bringing hope to millions of poor people in Africa, was developed by WARDA and its partners. The success of the NERICA varieties has helped shape the Center's future direction, extending its horizon beyond West Africa into Eastern, Central and Southern Africa.

WARDA hosts the African Rice Initiative (ARI), the West and Central Africa Rice Research and Development Network (ROCARIZ) and the Inland Valley Consortium (IVC). It also supports the Coordination Unit of the Eastern and Central African Rice Research Network (ECARRN) based in Tanzania.

Since January 2005, WARDA has been working out of the International Institute of Tropical Agriculture (IITA) Benin station in Cotonou, having relocated from its headquarters in Bouaké, Côte d'Ivoire, because of the Ivorian crisis. WARDA has regional research stations near Saint-Louis, Senegal and at IITA in Ibadan, Nigeria.

For more information, please visit www.warda.org

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