Background: Food Security in Southern Africa

Income levels vary widely in southern Africa and are clearly linked to per capita food consumption. Mozambique, which is recovering from civil war, has one of the world's lowest per capita income levels ($140; all dollar amounts are expressed as U.S. dollars), while Mauritius has the region's highest per capita income of $3,870 (World Bank, 1998). Nine of the 12 SADC countries recorded positive per capita growth rates over the 1988-97 period (table 1). The fastest growing economies on an annual per capita basis were Mauritius and Botswana, both over 4 percent. Only Angola, which has continued to experience political instability, has shown a highly negative growth rate (-8 percent).

The SADC region averages 2,231 calories per person per day, which is below the world average of 2,760. Average daily per capita calorie consumption is highest in Mauritius (2,923) and South Africa (2,956) where incomes are highest, while consumption is below the nutritional requirement of 2,100 calories as recommended by FAO in the poorer countries like Angola (1,900), Mozambique (1,782), and Zambia (1,958). Regionally, grains account for 53 percent of total calorie availability, which is one reason why this

report focuses on this commodity group. Another reason is that grains are the largest component of global food aid.

The structure of grain food supplies has changed considerably in recent decades. In previous decades, Angola, Malawi, Zambia, Zimbabwe, and South Africa were all net grain-exporting countries (table 2). Recently, only Zimbabwe and South Africa have been net grain exporters (fig. 1). Generally, grain production growth has not kept pace with consumption, leading to a greater reliance on imports. This is a cause for concern since consumers in the region previously have shown a strong preference for the staple grain white maize, which is not widely traded on world grain markets.[6] Moreover, because of the financial difficulties in some countries, the region has slowly become more reliant on food aid in recent decades (fig. 2).

Finally, one of the most distinguishing features about southern Africa is its relatively high variability in food production compared with other regions around the world. One measure of variability is the coefficient of
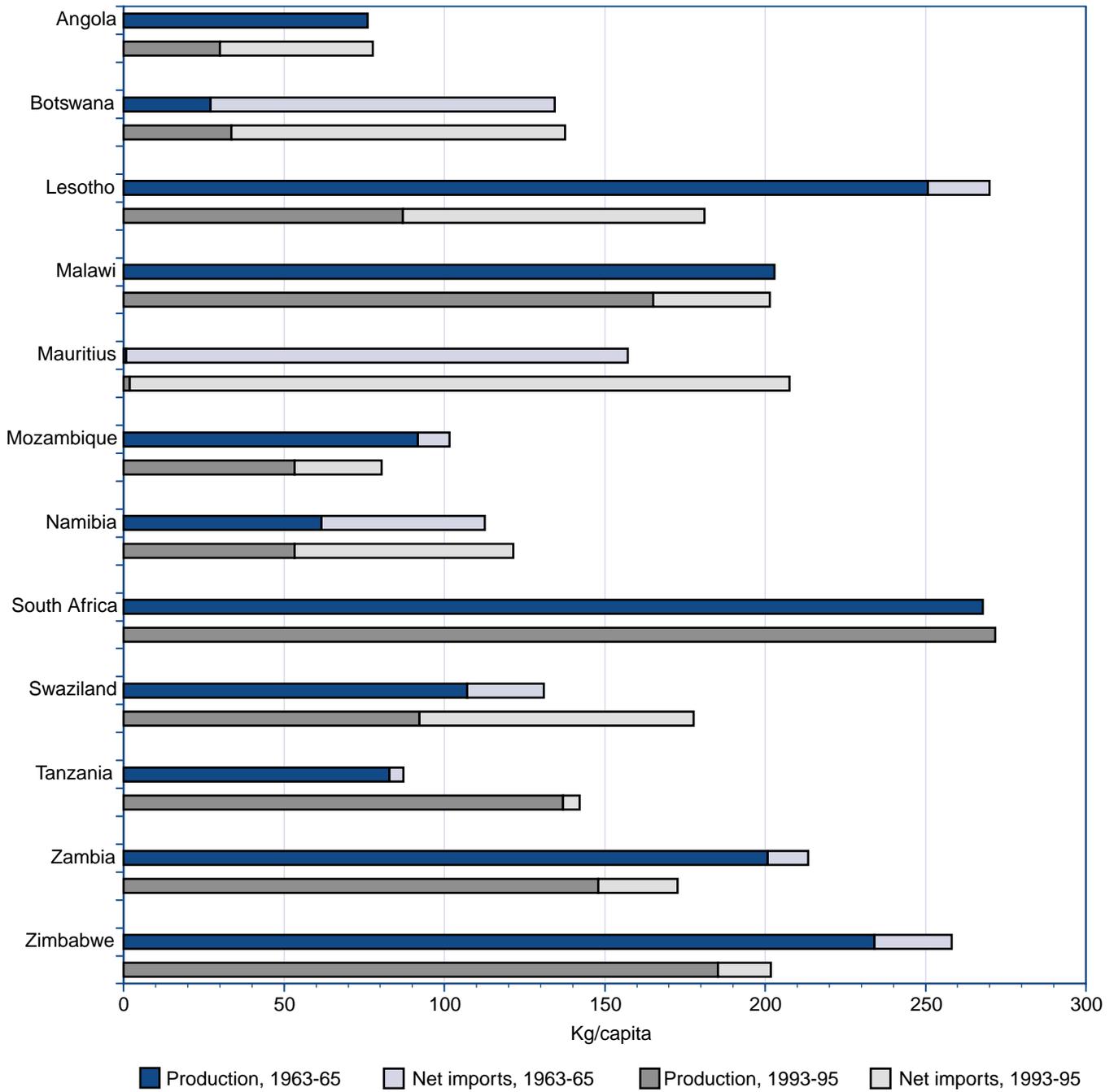
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[6] It is unclear how much consumers are willing to switch to other grains. Missiaen (1995) showed that consumers were willing to purchase maize meal that was blended with yellow and white varieties only after a relatively large price discount had been offered.

Table 1—Per capita incomes and calorie consumption levels

Country	Per capita GNP, 1997	Annual real per capita GNP growth rate, 1988-97	Average per capita calorie supplies, per day, 1995-97	Average share of grains in calorie supplies, 1995-97
	Dollars	*Percent*	*Number*	*Percent*
Angola	260	-8.5	1,900	31.4
Botswana	3,310	4.0	2,228	49.4
Lesotho	680	1.4	2,236	75.3
Malawi	210	1.3	2,068	68.4
Mauritius	3,870	4.1	2,923	44.3
Mozambique	140	2.7	1,782	41.5
Namibia	2,110	2.1	2,141	48.9
South Africa	3,210	-.7	2,956	52.9
Swaziland	1,520	1.6	2,479	50.5
Tanzania	210	0.7	2,000	48.7
Zambia	370	-.9	1,958	66.2
Zimbabwe	720	0	2,095	61.5
SADC	1,420	-0.6	2,231	53.2

Source: World Bank, 1998; UNFAO, 1999; and authors' calculations.

Figure 1
SADC per capita grain supplies by source, 1963-65 average versus 1993-95 average

Kg/capita

■ Production, 1963-65   □ Net imports, 1963-65   ■ Production, 1993-95   □ Net imports, 1993-95

Source: Authors' calculations based on U.S. Dept. of Agriculture, Production, Supply, and Distribution database, 1998.

Table 2—Structure of grain supplies, 1963-65 and 1993-95

| Country	1963-65 average				1993-95 average				Coefficient of variation 1963-95
	Production	Imports[1]	Exports	Supply[2]	Production	Imports	Exports	Supply	
	- Kg/capita -								Number
Angola	90.7	9.5	24.1	76.1	30.0	47.7	0	77.7	0.26
Botswana	27.1	107.2	0	134.3	33.5	107.1	3.0	137.6	0.70
Lesotho	250.7	19.2	0	269.9	87.0	98.5	0	181.0	0.06
Malawi	203.3	3.3	3.6	202.9	165.0	41.5	0	201.5	0.24
Mauritius	.7	157.3	0.1	157.2	1.8	225.4	19.6	207.6	—
Mozambique	91.7	10.2	0.4	101.5	53.7	27.2	0	80.9	0.23
Namibia	61.6	51.0	0	112.6	53.2	68.3	0	121.6	0.31
South Africa	327.5	15.5	82.5	267.8	292.2	33.9	50.4	271.7	0.31
Swaziland	107.1	23.9	0	131.1	92.2	85.5	0	177.7	0.40
Tanzania	82.9	5.8	1.5	87.2	137.0	6.2	0	142.2	0.51
Zambia	200.8	12.6	0	213.4	148.0	26.9	3.9	172.7	0.37
Zimbabwe	234.0	24.9	.7	258.2	185.2	28.6	24.0	201.8	0.37
SADC	195.5	13.7	40.9	176.3	163.9	49.1	17.2	185.3	0.24

— = Not calculated because of negligible production.
[1] Imports include food aid.
[2] Supply is defined as production plus imports minus exports. Supply figures shown may not match due to 3-year averaging.
Source: U.S. Dept. of Agriculture, Production, Supply, and Distribution database, 1998.

Figure 2
SADC food aid imports by country, 1970-96
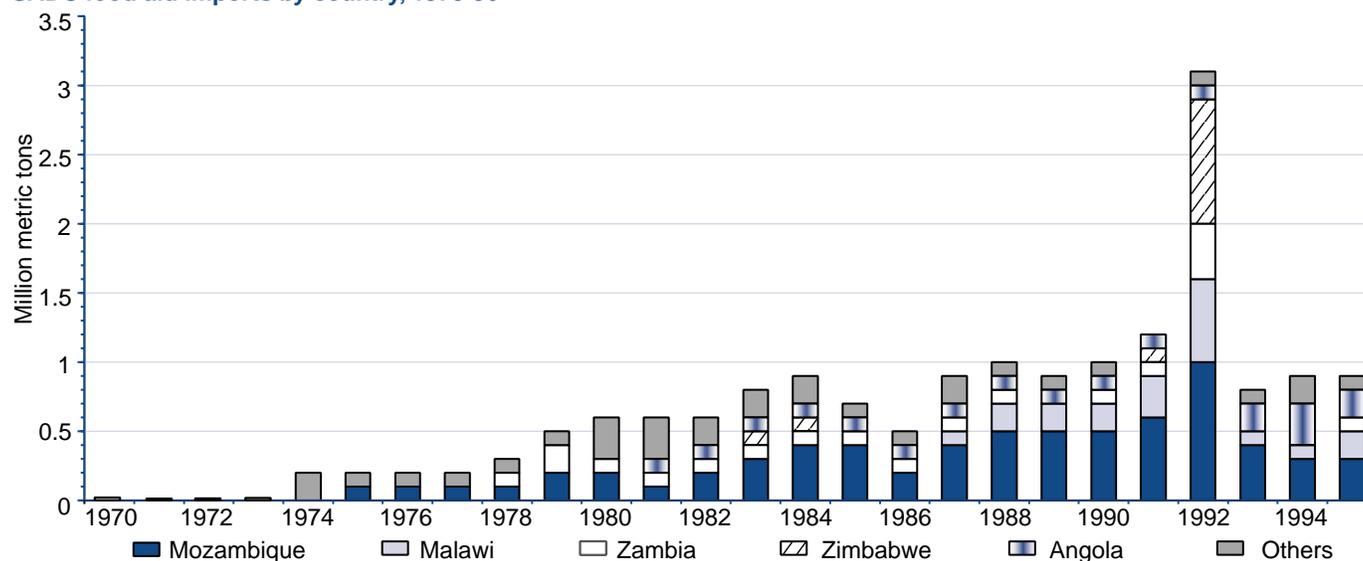
Source: FAOSTAT database, 1999.

variation, which measures how far observations are dispersed around an average for a sample.[7] Regionally, the production coefficient of variation over the 1962-95 period was 0.24, although it is as high as 0.51 in Tanzania and 0.70 in Botswana. This means that food

supplies tend to be available in either booms or busts, particularly for those countries in the region that depend primarily on domestic production for food supplies. In severe production deficit years, which have occurred regionally about once every decade (most recently in 1991/92), large scale international food aid efforts have been necessary to avoid widespread starvation.

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[7] Technically, the coefficient of variation is measured as the ratio of standard deviation to the mean.