

Appendix 16. Nutrition Data

Table 1
Prevalence of Stunting, Wasting, and Underweight in Children in Southern Africa (percent of children under five)

Country	Year	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
		Moderate plus severe ¹	Severe ²	Moderate plus severe	Severe	Moderate plus severe	Severe
Angola ³	1996	58	33	7	2	49	17
Botswana	2000	23	8	5	1	13	2
Lesotho	1996	44	20	5	3	16	4
Madagascar	2000	49	26	14	5	33	11
Malawi	2000	49	24	6	1	25	6
Mozambique ⁴	1997	36	16	8	2	26	9
Namibia	1992	28	8	9	2	26	6
South Africa ⁵	1994	25	--	3	--	9	1
Swaziland	--	30x ⁶	--	1x	--	10x	--
Tanzania	1999	44	17	5	0.6	29	7
Zambia	1999	59	--	4	--	25	--
Zimbabwe	1999	27	9	6	2	13	2
Sub-Saharan Africa		41	20	10	3	30	9

1. Moderate plus severe: < -2 SD.

2. Severe: < -3 SD.

3. The figures for Angola are from the Angola 1998 Multiple Indicators Cluster Survey.

4. Mozambique: children under three years of age.

5. South Africa: children 7-60 months.

6. The "x" denotes data that differ from standard definitions or are from only part of the country.

SOURCE: UNICEF, no date

Table 2
Underweight Children in Southern Africa: 1970, 1975, and 1990-98¹ (percent under five)

Country	1970	1975	1990-98
Angola	--	--	42
Botswana	44	--	17
Lesotho	47	20	16
Madagascar	--	--	--
Malawi	38	19	30
Mozambique	16	--	26
Namibia	--	--	26
South Africa	70	--	9
Swaziland	49	--	10
Tanzania	37	25	27
Zambia	48	17	24
Zimbabwe	66	25	15

1. Moderate plus severe underweight: < -3 SD.

SOURCE: UNICEF, no date

Table 3
Changes in Children's Chronic Malnutrition Rates in 5 Southern African Countries in the 1990s
(rounded percents; children <5)

Characteristic	Years	Moderate plus severe stunting ¹			Severe stunting ²			Urban-rural differences, moderate plus severe stunting		
		1st year	2nd year	Change	1st year	2nd year	Change	1st year ³	2nd year ⁴	Change
M A D A G A S C A R										
National	1992, 1997	55	49	-6				11	4	-7
Urban		45	45	0						
Rural		56	59	-6						
M A L A W I										
National	1992, 2000	49	49	0	23	24	+1	15	17	+2
Urban		35	34	-1	11	14	+3			
Rural		50	51	+1	24	26	+2			
T A N Z A N I A										
National	1992, 1999	47	44	-3	20	17	-3	19	22	+3
Urban ⁵		29	26	-3	11	8	-3			
Rural		48	48	0	21	19	-2			
Z A M B I A										
National	1992, 1996	40	42	+2	15	18	+3	13	16	+3
Urban		33	33	0	11	10	-1			
Rural		46	49	+3	19	22	+3			
Z I M B A B W E										
National	1994, 1999	21	27	+6	6	9	+3	5	7	+2
Urban		18	21	+3	6	7	+1			
Rural		23	29	+6	6	11	+5			

1 Moderate plus severe: < -2 SD.

2 Severe: <-3 SD.

3 Difference between the urban and rural rates in column three.

4 Difference between the urban and rural rates in column four.

5 Urban = only data from Dar es Salaam in 1992; from all urban areas in 1999.

Sources: Madagascar: Sahn and Stifel, 2002; Malawi, Tanzania, Zambia, Zimbabwe: Demographic and Health Surveys

Table 4
Malawi: Children's Nutritional Status in 1992 and 2000 (rounded percents; children <5)

Year	Stunting ¹ (Chronic Malnutrition)		Wasting ² (Acute Malnutrition)		Global Malnutrition ³ (Stunting and Wasting)	
	Moderate Plus Severe ⁴	Severe ⁵	Moderate Plus Severe	Severe	Moderate Plus Severe	Severe
T O T A L P O P U L A T I O N						
1992	49	23	5	1	27	8
2000	49	24	6	1	25	6
U R B A N						
1992	35	11	3	1	15	4
2000	34	14	5	1	13	1
R U R A L						
1992	50	24	6	2	29	8
2000	51	26	6	1	27	7
M O T H E R : N O E D U C A T I O N						
1992	52	26	6	2	31	9
2000	54	29	7	1	29	7
M O T H E R : P R I M A R Y E D U C A T I O N , 1 - 4						
1992	52	23	5	1	27	8
2000	52	27	7	1	29	7
M O T H E R : P R I M A R Y E D U C A T I O N , 5 - 8						
1992	42	17	5	0.7	21	5
2000	45	21	5	1	23	5

1. Height for age.

2. Weight for height.

3. Weight for age.

4. Moderate plus severe: < -2 SD.

5. Severe: < -3 SD.

Table 5
Namibia: Changes in Child Malnutrition, 1992–2000 (percent of children under five)

Year	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
	Moderate ¹	Severe ²	Moderate	Severe	Moderate	Severe
1992	28	8	9	2	26	6
2000	24	8	9	2	24	5
Percent change, 1992-2000	-14	0	0	0	-8	-17

1. Moderate: < -2 SD.

2. Severe: < -3 SD

Table 6
Tanzania: Children's Nutritional Status in 1992 and 1999 (rounded percents; children <5)

Year	Stunting ¹ (chronic malnutrition)		Wasting ² (acute malnutrition)		Global malnutrition ³ (stunting and wasting)	
	Moderate plus severe ⁴	Severe ⁵	Moderate plus severe	Severe	Moderate plus severe	Severe
TOTAL POPULATION						
1992	47	20	6	1	29	7
1999	44	17	5	0.6	29	7
URBAN DAR ES SALAAM						
1992	29	11	7	1	20	4
OTHER URBAN						
1992	45	16	4	4	27	4
URBAN						
1999	26	8	6	0.4	21	5
RURAL						
1992	48	21	6	1	29	8
1999	48	19	5	0.7	31	7
MOTHER: NO EDUCATION						
1992	50	23	6	0.7	32	9
MOTHER: PRIMARY EDUCATION						
1992	43	17	6	2	25	6

1. Height for age.

2. Height for height.

3. Weight for age.

4. Moderate plus severe: < -2 SD.

5. Severe: < -3 SD.

Table 7
Zambia: Children's Nutritional Status, 1992 and 1996 (rounded percents; children <5)

Year	Stunting ¹ (Chronic Malnutrition)		Wasting ² (Acute Malnutrition)		Global Malnutrition ³ (Stunting and Wasting)	
	Moderate plus Severe ⁴	Severe ⁵	Moderate plus Severe	Severe	Moderate plus Severe	Severe
TOTAL POPULATION						
1992	40	15	5	1	25	6
1996	42	18	4	0.6	24	5
U R B A N						
1992	33	11	5	1	21	4
1996	33	10	3	0.5	17	3
R U R A L						
1992	46	19	5	1	29	7
1996	49	22	5	0.8	28	7
M O T H E R : N O E D U C A T I O N						
1992	46	21	5	0.8	29	8
1996	50	23	6	0.8	31	7
M O T H E R : P R I M A R Y E D U C A T I O N						
1992	42	16	6	1	27	6
1996	45	19	4	0.7	25	6
M O T H E R : S E C O N D A R Y E D U C A T I O N						
1992	31	10	4	0.8	18	3
1996	33	10	3	0.3	16	3

1. Height for age.

2. Weight for height.

3. Weight for age.

4. Moderate plus severe: < -2 SD.

5. Severe: < -3 SD.

Table 8
Zimbabwe: Children's Nutritional Status in 1988, 1994, and 1999 (rounded percents; Zimbabwe 1988, 1995, and 2000)

Year	Stunting ¹ (Chronic Malnutrition)		Wasting ² (Acute Malnutrition)		Global Malnutrition ³ (Stunting and Wasting)	
	Moderate plus Severe ⁴	Severe ⁵	Moderate plus Severe	Severe	Moderate plus Severe	Severe
T O T A L P O P U L A T I O N						
1988	30	8	1	0.3	13	2
1994 ⁶	21 (23) ⁶	6 (7)	6 (6)	0.7 (0.8)	16 (17)	3 (3)
1999	27	9	6	2	13	2
U R B A N						
1994	18	6	6	0.5	13	2
1999	21	7	4	1	8	0.7
R U R A L						
1994	23	6	5	0.8	17	3
1999	29	11	8	2	16	2
M O T H E R : N O E D U C A T I O N						
1994	27	10	6	0.6	26	5
1999	35	13	8	3	21	3
M O T H E R : P R I M A R Y E D U C A T I O N						
1994	25	7	5	0.9	17	3
1999	29	11	7	1	16	2
M O T H E R : S E C O N D A R Y E D U C A T I O N						
1994	15	2	5	0.5	10	2
1999	23	8	5	2	9	0.9

1. Height for age.

2. Weight for height.

3. Height for age.

4. Moderate plus severe: < -2 SD.

5. Severe: < -3 SD.

6. Data from children <3 years of age in the 1994 survey; data from children <5 years in the 1988 and 1999 surveys.

The figures in parentheses are the 1994 data from children <3 years only in order to allow direct comparison with the figures from 1988.

Table 9

Comparative Child Nutritional Status by Urban-Rural Residence and Poorest Income Quintile¹ in Seven Southern African Countries (rounded percents)

Country	Year	Moderate Stunting ² (Chronic Malnutrition)		Moderate Underweight ³ (Global Malnutrition)		Severe Underweight ⁴ (Global Malnutrition)	
		Urban	Rural	Urban	Rural	Urban	Rural
Madagascar ⁵	1997	52	49	50	45	17	16
Malawi ⁶	1992	(Q.3) ⁷ 53	55	(Q.3) 23	34	(Q.3) 3	13
Mozambique ⁵	1997	(Q.3) 40	48	(Q.3) 30	37	(Q.3) 10	15
Namibia ⁶	1992	(Q.3) 34	37	(Q.3) 29	36	(Q.3) 8	8
Tanzania ⁶	1996	(Q.2) ⁸ 36	51	(Q.2) 27	40	(Q.2) 6	12
Zambia ⁶	1996	(Q.2) 52	53	(Q.2) 24	32	(Q.2) 3	9
Zimbabwe ⁵	1994	(Q. 4) ⁹ 26	24	(Q.4) 16	19	(Q.4) 4	3

¹Except for Madagascar, the poorest rural quintiles are compared with the first urban income quintile for which data were available. Data were not available in the poorest urban quintiles of the six other countries due to the small number of cases in the sample.

²Height for age, below -2 standard deviation (SD) Z-score.

³Weight for age, below -2 SD Z-score.

⁴Weight for age, below -3 SD Z-score.

⁵Data from children <3 years of age.

⁶Data from children <5 years of age.

⁷Quintile 3 = middle income.

⁸Quintile 2 = poor.

⁹Quintile 4 = rich.

SOURCE: Gwatkin et al., 2000

Table 10

Comparative Child Nutritional Status by Income Quintiles in Seven Southern African Countries (rounded percents)

Country	Year	Moderate Stunting ¹ (Chronic Malnutrition)				Moderate underweight ² (Global Malnutrition)				Severe Underweight ³ (Global Malnutrition)			
		Poorest	Middle	Richest	Average	Poorest	Middle	Richest	Average	Poorest	Middle	Richest	Average
Madagascar ⁴	1997	49	52	43	48	45	39	32	40	16	13	8	13
Malawi ⁵	1992	55	51	36	49	34	29	17	28	12	8	4	8
Mozambique ⁴	1997	48	35	22	36	37	27	14	26	15	8	5	9
Namibia ⁵	1992	37	30	17	29	36	31	13	26	9	7	0.8	6
Tanzania ⁵	1996	51	47	29	43	40	32	18	31	12	9	3	8
Zambia ⁵	1996	53	46	25	42	32	24	13	24	9	5	2	5
Zimbabwe ⁴	1994	24	23	12	21	19	14	9	16	3	4	2	3
UNICEF ⁶	2000	49				25				6			

¹Height for age, below -2 standard deviation (SD) Z-score.

²Weight for age, below -2 SD Z-score.

³Weight for age, below -3 SD Z-score.

⁴Data from children <3 years of age.

⁵Data from children <5 years of age.

⁶UNICEF's global end-decade indicators for 2000.

SOURCE: Gwatkin et al., 2000

Table 11

Comparative Child Nutritional Status by Rural Residence and Income Quintiles¹ in Seven Southern African Countries (rounded percent)

Country	Year	Rural Children: Moderate Stunting ² (Chronic Malnutrition)					Rural Children: Moderate Underweight ³ (Global Malnutrition)					Rural Children: Severe Underweight ⁴ (Global Malnutrition)				
		Poorest	Q.2	Q.3	Q.4	Richest	Poorest	Q.2	Q.3	Q.4	Richest	Poorest	Q.2	Q.3	Q.4	Richest
Madagascar ⁵	1997	49	45	53	51	49	45	39	39	41	33	16	13	13	12	8
Malawi ⁶	1992	55	56	51	49	39	34	33	29	25	21	13	7	8	7	5
Mozambique ⁵	1997	48	40	35	38	24	37	33	27	22	14	15	11	7	8	2
Namibia ⁶	1992	37	31	30	26	(16) ⁷	36	30	31	22	(13) ⁷	8	7	7	5	0
Tanzania ⁶	1996	51	48	47	43	29	40	34	32	29	20	12	8	8	7	4
Zambia ⁶	1996	53	48	46	39	*8	32	29	25	18	*8	9	7	5	3	*8
Zimbabwe ⁵	1994	24	26	22	18	*8	32	29	25	18	*8	9	7	5	3	*8

¹Quintile 1 = poorest; quintile 2 = poor; quintile 3 = middle; quintile 4 = rich; quintile 5 = richest.

²Height for age, below -2 standard deviation (SD) Z-score.

³Weight for age, below -2 SD Z-score.

⁴Weight for age, below -3 SD Z-score.

⁵Data from children <3 years of age.

⁶Data from children <5 years of age.

⁷ () = large sampling error due to the small number of cases.

⁸ * = results not shown due to the very small number of cases.

SOURCE: Gwatkin et al., 200

Table 12

Low Body Mass Index in Women by Income Quintiles and Urban-Rural Residence in Seven Southern African Countries¹ (rounded percents)

Country	Year	All Women, by Income Quintiles					Average of all women	Urban, by Income Quintiles			Rural, by Income Quintiles		
		Poorest	Q.2 ²	Q.3 ³	Q.4 ⁴	Richest		Poorest	Middle	Richest	Poorest	Middle	Richest

Madagascar	1997	24	23	18	19	15	21	23	(15) ⁵	16	24	19	12
Malawi	1992	14	11	8	9	6	10	*6	*5	6	14	8	6
Mozambique	1997	17	14	11	6	4	11	*	18	6	17	11	1
Namibia	1992	29	17	15	14	5	14	*	14	6	20	16	(3) ⁵
Tanzania	1996	12	8	9	9	7	9	*	4	7	12	10	7
Zambia	1996	10	10	10	7	8	9	*	12	8	10	10	*6
Zimbabwe	1994	6	8	6	5	1	5	*	*	0.6	6	6	*

¹Body Mass Index (BMI) is an indicator of adult nutritional status, defined as weight in kilograms divided by the square of height in meters.

²Quintile 2 is poor.

³Quintile 3 is middle.

⁴Quintile 4 is rich.

⁵() indicates large sampling error due to the small number of cases.

⁶* results not shown due to a very small number of cases.

SOURCE: Gwatkin et al., 2000

Table 13
Angola: Children's Nutritional Status in 1996

Population	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
	Moderate plus severe ¹	Severe ²	Moderate plus severe	Severe	Moderate plus severe	Severe
Rural	58	33	7	2	49	17
Urban	47	20	5	1	32	10
Total	53	27	6	2	42	14

¹Moderate: < -2 SD.

²Severe: < -3 SD.

SOURCE: Government of Angola and UNICEF, 1998

Table 14
Lesotho: Child Malnutrition Rates in 2000 (rounded percents; children under five)

Social Characteristic	Stunting ¹ (Chronic Malnutrition)		Wasting ² (Acute Malnutrition)		Global Malnutrition ³ (Stunting and Wasting)	
	Moderate plus Severe ⁴	Severe ⁵	Moderate plus Severe	Severe	Moderate plus Severe	Severe
Total population	46	21	5	1	18	4
Poorest income quintile	55	29	7	1	26	7
Poor quintile	50	23	6	2	22	5
Middle quintile	46	21	6	2	16	3
Rich quintile	42	19	5	1	16	3
Richest quintile	34	14	4	0.5	9	2
Urban residence	39	17	6	0.9	13	3
Rural residence	47	22	5	2	19	4
Mother: no education	54	27	6	2	19	4
Mother: primary education	48	23	6	2	20	5
Mother: secondary education	39	17	5	0.7	12	2

¹Height for age. ²Weight for height. ³Weight for age. ⁴Moderate plus severe: < -2SD. ⁵Severe: < -3 SD.

SOURCE: Government of Lesotho and UNICEF, 2000

Table15
Madagascar Children's Nutritional Status in 1992 (rounded percents, children <5)

Social characteristic	Stunting ¹ (Chronic Malnutrition)		Wasting ² (Acute Malnutrition)		Global Malnutrition ³ (Stunting and Wasting)	
	Moderate plus Severe ⁴	Severe ⁵	Moderate plus Severe	Severe	Moderate plus Severe	Severe
Total population	51	24	5	0.3	39	9
Urban residence	44	19	3	0.3	33	7
Rural residence	52	24	5	0.3	40	10
Mother: no education	45	19	6	0.7	34	9
Mother: primary education	54	26	5	0.3	43	11
Mother: secondary education	53	25	3	0	36	7

¹ Height for age.

² Weight for height.

³ Weight for age.

⁴Moderate plus severe: < -2 SD.

⁵Severe: < -3 SD.

SOURCE: Government of Madagascar, 1992

Table 16
Swaziland: Child Malnutrition Rates in 2000 (rounded percents; children under five;)

Social characteristic	Stunting ¹ (chronic malnutrition)		Wasting ² (acute malnutrition)		Global malnutrition ³ (stunting and wasting)	
	Moderate plus severe ⁴	Severe ⁵	Moderate plus severe	Severe	Moderate plus severe	Severe
Total population	30	12	1.0	0.2	10.0	2.0
Poorest income quintile	38	16	2	0.1	15	3
Poor quintile	33	12	1	0.1	10	2
Middle quintile	32	13	2	0.3	10	3
Rich quintile	24	10	0.6	0.2	8	1
Richest quintile	13	3	1	0.3	3	0.3
Urban residence	24	9	0.7	0	8	1
Rural residence	32	13	1	0.2	11	2
Mother: no education	36	14	2	0	13	3
Mother: primary education	33	13	1	0.4	12	3
Mother: secondary education	25	9	1	0.2	7	1

¹ Height for age.

² Weight for height.

³ Weight for age.

⁴ Moderate plus severe: < -2 SD.

⁵ Severe: < -3 SD.

Source: Government of Swaziland and UNICEF, 2000