

Table 8.1 Rural development

	Rural population (%)						Rural population density (rural population per sq km of arable land)	
	Share of total population			Annual growth			1990	2008
	1990	2008	2009	1990	2008	2009	1990	2008
SUB-SAHARAN AFRICA	71.8	63.5	63.0	2.2	1.7	1.7	286.0	358.0
Angola	62.9	43.3	42.4	0.7	0.6	0.5	231.2	229.5
Benin	65.5	58.8	58.4	2.2	2.5	2.4	194.5	199.7
Botswana	58.1	40.4	39.7	-2.1	-0.4	-0.4	187.0	310.6
Burkina Faso	86.2	80.4	80.0	2.4	2.9	2.9	215.8	194.5
Burundi	93.7	89.6	89.3	2.3	2.6	2.5	572.4	803.8
Cameroon	59.3	43.2	42.4	1.5	0.4	0.3	122.1	138.4
Cape Verde	55.9	40.4	39.6	-2.2	-0.4	-0.5	483.0	309.8
Central African Republic	63.2	61.4	61.3	1.9	1.6	1.6	96.4	138.1
Chad	79.2	73.3	72.9	2.9	2.1	2.0	147.7	186.1
Comoros	72.1	71.9	71.9	2.0	2.3	2.3	402.4	578.6
Congo, Dem. Rep.	72.2	66.0	65.4	3.7	1.8	1.8	400.7	633.4
Congo, Rep.	45.7	38.7	38.3	1.9	0.8	0.9	233.4	285.2
Côte d'Ivoire	60.3	51.2	50.6	3.1	1.0	1.0	312.9	376.7
Djibouti	24.3	12.7	12.3	4.1	-1.3	-1.5	13,614.8	10,785.4
Equatorial Guinea	65.3	60.6	60.5	1.9	2.3	2.3	190.5	305.0
Eritrea	84.2	79.3	78.8	1.3	2.4	2.4	..	583.0
Ethiopia	87.4	83.0	82.7	3.1	2.2	2.2	..	492.4
Gabon	30.9	15.0	14.5	-1.0	-1.3	-1.5	97.0	66.7
Gambia, The	61.7	43.6	42.7	2.3	0.8	0.7	303.6	185.5
Ghana	63.6	50.0	49.2	1.7	0.6	0.6	352.6	265.2
Guinea	72.0	65.6	65.1	3.2	1.5	1.6	547.8	268.6
Guinea-Bissau	71.9	70.2	70.1	0.8	2.1	2.1	294.0	368.4
Kenya	81.8	78.4	78.1	3.1	2.3	2.3	384.1	573.4
Lesotho	86.0	74.5	73.8	1.0	-0.1	-0.1	434.7	430.3
Liberia	54.7	39.9	39.2	-3.8	2.8	2.5	338.7	378.0
Madagascar	76.4	70.5	70.1	2.2	2.2	2.2	316.6	456.6
Malawi	88.4	81.2	80.7	3.5	2.2	2.2	371.3	344.4
Mali	76.7	67.8	67.3	1.4	1.5	1.5	323.3	177.7
Mauritania	60.3	59.0	58.8	1.0	2.1	2.0	299.7	474.2
Mauritius	56.1	57.5	57.5	0.2	0.5	0.4	593.0	838.9
Mozambique	78.9	63.2	62.4	0.2	1.1	1.0	309.7	314.2
Namibia	72.3	63.2	62.6	3.4	1.0	1.0	155.2	168.2
Niger	84.6	83.5	83.4	2.8	3.8	3.8	60.6	84.7
Nigeria	64.7	51.6	50.9	1.6	1.0	0.9	213.2	208.2
Rwanda	94.6	81.7	81.4	-0.4	2.4	2.5	768.7	615.3
São Tomé and Príncipe	56.4	39.4	38.6	0.2	-0.5	-0.5	3,274.5	701.9
Senegal	61.0	57.6	57.4	2.4	2.2	2.2	148.7	201.0
Seychelles	50.7	45.7	45.2	0.9	1.2	0.1	3,549.0	3,970.4
Sierra Leone	67.1	62.2	61.9	0.9	2.0	1.9	563.8	192.8
Somalia	70.3	63.5	63.0	0.0	1.5	1.6	453.7	566.6
South Africa	48.0	39.3	38.8	1.0	-0.1	-0.2	125.7	131.8
Sudan	73.4	56.6	55.7	1.2	0.7	0.6	155.4	113.0
Swaziland	77.1	75.1	74.8	3.2	1.0	1.1	370.2	492.5
Tanzania	81.1	74.5	74.0	2.7	2.3	2.3	229.4	329.6
Togo	69.9	58.0	57.3	1.9	1.3	1.2	130.7	152.3
Uganda	88.9	87.0	86.9	3.2	3.1	3.1	315.3	487.6
Zambia	60.6	64.6	64.4	3.1	2.2	2.2	209.1	346.1
Zimbabwe	71.0	62.7	62.2	1.9	-0.7	-0.3	257.0	209.4
NORTH AFRICA	51.5	47.2	46.9	1.7	1.1	1.1	823.3	1,078.3
Algeria	47.9	34.8	34.1	0.8	-0.3	-0.3	171.0	159.6
Egypt, Arab Rep.	56.5	57.3	57.2	2.5	1.7	1.7	1,429.4	1,684.1
Libya	24.3	22.5	22.3	2.0	1.2	1.2	58.8	80.8
Morocco	51.6	44.0	43.6	0.5	0.4	0.4	147.0	172.6
Tunisia	42.1	33.5	33.1	0.5	-0.2	-0.2	118.0	122.0

a. Data are for the most recent year available during the period specified.

Share of rural population below the national poverty line				Rural population poverty gap at national poverty line (%)				Share of rural population with sustainable access (%)	
Surveys 1990–99 ^a		Surveys 2000–09 ^a		Surveys 1990–99 ^a		Surveys 2000–07 ^a		To an improved water source 2008	To improved sanitation facilities 2008
Year	Percent	Year	Percent	Year	Percent	Year	Percent		
..	..	..	..	..	..	..	..	46.8	24.1
..	..	..	..	..	..	..	..	38.0	18.0
1999	33.0	2003	46.0	1999	9.4	2003	14.0	69.0	4.0
1993	55.0	2003	44.8	..	..	2003	18.4	90.0	39.0
1998	50.7	2003	52.4	1998	15.7	2003	17.6	72.0	6.0
1998	83.2	2006	68.9	1998	45.9	2006	24.2	71.0	46.0
1996	59.6	2007	55.0	..	..	2007	17.5	51.0	35.0
..	..	2007	44.3	..	..	2007	14.3	82.0	38.0
1992	74.4	2008	69.4	1992	42.5	2008	35.0	51.0	28.0
1995	48.6	2003	58.6	1995	26.3	2003	23.3	44.0	4.0
1995	69.4	2004	48.7	..	..	2004	17.8	97.0	30.0
..	..	2005	75.7	..	..	2005	34.9	28.0	23.0
..	..	2005	57.7	..	..	2005	20.6	34.0	29.0
1998	41.5	2008	54.2	1998	14.3	2008	20.3	68.0	11.0
..	..	..	..	..	..	..	..	52.0	10.0
..
..	..	..	..	..	..	..	..	57.0	4.0
1999	45.4	2004	39.3	1999	12.2	2004	8.5	26.0	8.0
..	..	2005	44.6	..	..	2005	16.0	41.0	30.0
1998	79.0	2003	67.8	..	..	2003	30.5	86.0	65.0
1998	49.6	2006	39.2	1998	18.2	2006	13.5	74.0	7.0
1994	82.1	2007	63.0	1994	39.1	2007	22.0	61.0	11.0
..	..	2002	69.1	..	..	2002	27.8	51.0	9.0
1997	52.9	2005	49.1	1997	19.3	2005	17.5	52.0	32.0
1994	68.9	2003	60.5	1993	26.5	..	..	81.0	25.0
..	..	2007	67.7	..	..	2007	26.3	51.0	4.0
1999	76.7	2005	73.5	1999	21.4	2005	28.9	29.0	10.0
1998	66.5	2004	55.9	1998	23.9	2004	8.6	77.0	57.0
..	..	2006	57.6	..	..	..	..	44.0	32.0
1996	68.1	2000	61.2	..	..	2000	24.1	47.0	9.0
..	..	..	..	..	..	..	..	99.0	90.0
1996	71.3	2008	56.9	1996	29.9	2008	22.2	29.0	4.0
1993	69.0	2003	49.0	1993	34.0	2003	16.0	88.0	17.0
1993	66.0	2007	63.9	1993	22.5	2007	21.2	39.0	4.0
1996	69.8	2004	63.8	1992	16.1	2004	26.6	42.0	28.0
..	..	2006	64.2	..	..	2006	26.0	62.0	55.0
..	..	2001	64.9	..	..	2001	24.7	88.0	19.0
1994	71.0	2005	61.9	1994	25.3	2005	21.5	52.0	38.0
..
1990	88.3	2003	78.5	1990	73.1	2003	34.6	26.0	6.0
..	..	..	..	..	..	..	..	9.0	6.0
..	..	..	..	..	..	..	..	78.0	65.0
..	..	..	..	..	..	..	..	52.0	18.0
..	..	2001	75.0	..	..	2001	37.0	61.0	53.0
1992	40.8	2007	37.4	1992	12.7	2007	11.0	45.0	21.0
..	..	2006	74.3	..	..	2006	29.3	41.0	3.0
1997	48.7	2009	27.2	1997	15.2	2009	7.6	64.0	49.0
1998	83.0	2006	76.8	1998	44.5	2006	38.8	46.0	43.0
1995	44.0	..	..	..	..	..	..	72.0	37.0
..	..	..	..	..	..	..	..	87.4	83.0
1995	30.3	..	..	1995	4.5	..	..	79.0	88.0
..	..	2008	30.0	..	..	..	..	98.0	92.0
..	..	..	..	..	..	..	..	..	96.0
1999	24.2	2007	14.5	..	..	..	..	60.0	52.0
..	..	..	..	..	..	..	..	84.0	64.0

Table 8.2 Agriculture

	Agriculture value added (% of GDP) 2009 ^a	Gross production index (1999–2001=100)					Cereal (thousands of metric tons)			Trade			
		Agriculture					Production	Exports	Imports	Agricultural		Food	
		total 2009	Crop 2009	Livestock 2009	Food 2009	Cereal 2009				Exports (\$ millions) 2008	Imports (\$ millions) 2008	Exports (\$ millions) 2008	Imports (\$ millions) 2008
SUB-SAHARAN AFRICA	13.1	..	128.7	125.1	130	..	116,492	2,199	21,901	25,448	32,546	15,199	26,522
Angola	10.2	196.0	250.0	92.0	198.0	174.0	1,030	1	734	12	2,375	10	1,824
Benin	..	112.0	110.0	135.0	116.0	136.0	1,508	5	226	450	791	300	745
Botswana	3.1	113.0	120.0	112.0	113.0	182.0	56	2	177	150	609	115	467
Burkina Faso	..	140.0	144.0	132.0	136.0	158.0	3,627	11	205	273	294	67	228
Burundi	..	109.0	108.0	118.0	110.0	114.0	300	0	29	57	49	2	44
Cameroon	..	114.0	117.0	105.0	120.0	148.0	2,017	0	551	962	624	681	541
Cape Verde	9.2	118.0	107.0	141.0	118.0	43.0	7	1	103	1	194	1	190
Central African Republic	55.5	119.0	110.0	132.0	123.0	148.0	251	0	31	23	33	16	27
Chad	..	118.0	118.0	120.0	125.0	172.0	2,193	0	147	87	143	54	111
Comoros	46.3	112.0	113.0	103.0	112.0	115.0	26	0	47	8	55	8	51
Congo, Dem. Rep.	42.9	97.0	97.0	96.0	98.0	97.0	1,573	5	902	57	959	11	830
Congo, Rep.	4.5	124.0	116.0	157.0	123.0	183.0	23	0	175	67	469	23	413
Côte d'Ivoire	24.4	110.0	109.0	132.0	120.0	113.0	1,471	38	1,090	4,361	1,224	3,382	1,036
Djibouti	..	147.0	101.0	158.0	147.0	90.0	0	0	201	38	432	37	383
Equatorial Guinea	3.5	91.0	90.0	104.0	89.0	..	..	..	30	3	85	3	53
Eritrea	14.4	126.0	154.0	101.0	126.0	237.0	227	1	119	2	66	2	65
Ethiopia	50.7	149.0	153.0	140.0	151.0	170.0	15,502	2	1,424	1,352	1,347	576	1,131
Gabon	5.1	103.0	104.0	100.0	103.0	127.0	47	0	135	81	391	3	322
Gambia, The	27.5	118.0	114.0	132.0	117.0	177.0	311	0	169	16	111	15	89
Ghana	31.7	154.0	156.0	127.0	155.0	156.0	2,607	0	825	1,532	1,311	1,482	1,214
Guinea	17.2	130.0	133.0	167.0	133.0	169.0	2,659	15	324	58	264	28	220
Guinea-Bissau	..	123.0	120.0	128.0	122.0	146.0	215	0	32	96	67	96	52
Kenya	22.6	124.0	107.0	147.0	126.0	94.0	2,804	30	1,100	2,669	1,344	737	1,175
Lesotho	8.4	75.0	72.0	78.0	72.0	37.0	75	0	259	1	138	1	112
Liberia	..	117.0	115.0	127.0	131.0	169.0	293	0	262	97	217	10	196
Madagascar	29.1	113.0	115.0	111.0	114.0	120.0	4,388	3	276	193	401	150	331
Malawi	30.5	136.0	141.0	153.0	129.0	120.0	3,993	31	259	768	266	103	177
Mali	..	157.0	162.0	153.0	183.0	240.0	6,335	4	252	351	416	144	341
Mauritania	20.6	116.0	116.0	115.0	116.0	129.0	213	..	438	24	470	18	424
Mauritius	4.3	105.0	95.0	138.0	106.0	182.0	1	18	282	372	746	326	562
Mozambique	31.5	123.0	130.0	89.0	102.0	94.0	1,785	30	610	330	616	181	526
Namibia	9.4	102.0	140.0	90.0	101.0	134.0	112	3	371	235	367	190	229
Niger	..	185.0	210.0	153.0	186.0	175.0	3,451	30	320	97	335	87	282
Nigeria	..	134.0	134.0	121.0	135.0	142.0	20,983	5	1,364	856	3,400	696	2,991
Rwanda	34.2	135.0	132.0	158.0	134.0	191.0	651	8	56	235	123	19	105
São Tomé and Príncipe	..	111.0	110.0	125.0	111.0	145.0	4	..	14	5	28	5	23
Senegal	16.6	133.0	130.0	144.0	134.0	175.0	1,869	37	1,533	252	1,793	133	1,633
Seychelles	2	39.0	61.0	44.0	38.0	..	..	0	19	4	90	2	77
Sierra Leone	51.4	197.0	204.0	144.0	201.0	406.0	868	0	214	26	211	23	189
Somalia	..	104.0	96.0	105.0	104.0	54.0	215	0	452	58	518	53	385
South Africa	3	120.0	111.0	130.0	122.0	122.0	14,577	1,279	2,302	5,461	4,896	3,741	3,204
Sudan	29.7	118.0	112.0	123.0	119.0	144.0	5,552	170	1,664	457	1,543	319	1,290
Swaziland	7.3	110.0	101.0	140.0	115.0	24.0	61	1	182	256	224	242	184
Tanzania	28.8	135.0	154.0	104.0	134.0	154.0	5,683	136	546	954	643	361	555
Togo	..	113.0	109.0	137.0	132.0	120.0	1,004	19	307	301	326	247	279
Uganda	24.7	112.0	109.0	120.0	112.0	131.0	2,811	73	439	878	629	198	537
Zambia	21.6	144.0	170.0	106.0	135.0	208.0	2,198	238	48	348	284	190	208
Zimbabwe	17.9	70.0	55.0	107.0	82.0	30.0	919	1	652	534	627	111	475
NORTH AFRICA	13.1						42,172	400	32,879	5,382	26,427	4,668	23,107
Algeria	11.7	163.0	196.0	121.0	163.0	279.0	5,253	1	9,093	76	7,785	61	7,015
Egypt, Arab Rep.	13.7	137.0	136.0	134.0	139.0	125.0	23,697	258	12,324	1,823	8,661	1,499	7,754
Libya	..	109.0	102.0	116.0	109.0	93.0	207	1	2,276	8	2,266	1	2,091
Morocco	16.4	139.0	142.0	128.0	140.0	163.0	10,430	95	6,127	1,919	5,157	1,718	4,140
Tunisia	7.8	115.0	119.0	110.0	115.0	84.0	2,585	45	3,059	1,555	2,557	1,389	2,107

Share of land area (%)		Agricultural irrigated land (% of agricultural land) 2000–08 ^b	Fertilizer consumption (100 grams per hectare of arable land) 2008	Agricultural machinery (tractors per 100 sq km of arable land) 2000–08 ^b	Agricultural employment (% of total employment) 2000–08 ^b	Agriculture value added per worker (2000 \$) 2009	Cereal yield (kilograms per hectare) 2009
Permanent cropland 2009	Cereal cropland 2009						
1.0	3.8		11.6			318.3	1,296.9
0.2	1.4	..	8.3	..	..	313.1	587.7
2.7	9.6	..	0.0	..	..	..	1,423.5
0.0	0.2	0.0	..	134.8	..	597.1	569.4
0.2	13.2	..	3.9	..	..	..	1,002.0
15.2	8.8	..	2.2	..	..	..	1,319.4
2.5	2.8	..	8.6	..	..	..	1,524.0
0.7	8.2	..	..	11.2	11.2	2,224.8	223.6
0.1	0.4	..	..	..	..	..	948.3
0.0	2.0	..	..	..	..	..	879.9
29.6	12.9	..	..	..	..	452.9	1,063.9
0.3	0.9	..	0.9	..	..	167.9	788.5
0.2	0.1	..	1.1	..	..	..	861.5
13.4	2.4	..	18.9	32.1	32.1	925.6	1,899.7
..	0.0	..	..	46.2	46.2	..	1,111.1
2.7	..	..	..	..	..	1,004.8	..
0.0	4.5	..	0.0	8.3	8.3	66.1	500.0
0.9	9.2	0.5	7.7	..	..	214.7	1,676.8
0.6	0.1	..	14.1	..	..	1,869.3	2,388.8
0.5	29.6	..	2.6	..	..	275.3	1,049.3
12.5	6.9	..	6.4	4.5	4.5	..	1,659.8
2.8	8.1	..	1.5	39.3	39.3	225.4	1,339.2
8.9	5.3	..	..	..	..	..	1,444.5
0.9	4.1	0.1	33.3	25.2	25.2	334.2	1,203.8
0.1	5.9	..	..	..	..	207.0	421.0
2.3	1.9	..	..	..	..	..	1,609.7
1.0	2.9	2.2	4.3	1.9	1.9	192.2	2,581.7
1.3	19.6	..	1.7	..	..	161.7	2,162.8
0.1	3.3	..	9.0	2.7	2.7	..	1,588.2
0.0	0.2	..	..	9.8	9.8	407.5	875.8
2.0	0.0	21.4	210.1	..	..	5,555.9	8,306.9
0.3	2.6	..	0.0	..	..	219.7	876.6
0.0	0.4	..	0.3	..	..	1,638.1	364.7
0.0	7.2	..	0.4	..	..	..	379.8
3.3	15.1	..	13.3	6.6	6.6	..	1,528.0
11.3	14.4	..	8.3	0.5	0.5	..	1,828.7
46.9	1.1	..	..	..	..	..	4,056.2
0.3	8.6	0.7	2.4	2.1	2.1	245.4	1,134.5
6.5	..	..	29.0	..	..	724.9	..
1.9	8.6	..	..	..	..	..	1,402.3
0.0	0.9	..	..	12.0	12.0	..	371.4
0.8	2.7	..	49.7	43.0	43.0	3,640.8	4,414.2
0.1	4.0	1.3	3.6	12.4	12.4	922.3	587.2
0.8	3.1	..	..	87.1	87.1	1,176.0	1,147.5
1.5	5.8	..	5.9	23.3	23.3	283.0	1,109.5
3.1	13.2	..	4.9	0.5	0.5	..	1,398.4
11.4	9.3	..	3.4	..	..	202.9	1,539.4
0.0	1.4	..	50.1	..	..	215.7	2,066.9
0.3	5.3	..	27.9	..	..	141.4	449.6
0.9	2.4	..	..	..	..	2,929.4	3,111.3
0.4	1.3	2.1	6.8	139.6	139.6	2,183.7	1,653.9
0.8	3.1	..	723.6	372.1	372.1	3,024.2	7,571.4
0.2	0.2	..	27.3	218.9	218.9	..	568.8
2.1	12.2	4.4	53.8	..	..	3,306.3	1,910.7
14.2	9.2	4.0	32.1	142.6	142.6	3,602.4	1,812.9

a. Provisional.

b. Data are for the most recent year available during the period specified.

Table 8.3 Producer food prices

	Rice, paddy (current \$ per metric ton)					Maize (current \$ per metric ton)				
	1991	1995	2000	2005	2008	1991	1995	2000	2005	2008
SUB-SAHARAN AFRICA										
Angola	..	..	..	..	..	..	..	..	..	..
Benin	..	..	..	..	..	..	..	..	..	..
Botswana	..	..	..	..	..	..	..	..	..	..
Burkina Faso	351.5	245.6	119.4	392.2	559.8	212.7	148.5	91.3	192.4	253.7
Burundi	220.4	272.3	277.5	609.2	814.9	270.0	208.2	253.0	314.3	325.2
Cameroon	177.2	136.2	144.6	269.1	337.2	283.6	152.3	163.7	113.2	140.6
Cape Verde	..	..	..	..	..	313.9	432.0	247.9	334.6	461.0
Central African Republic	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	..	..	..	..	..	..	..
Comoros	..	..	..	..	..	..	..	..	..	..
Congo, Dem. Rep.	..	..	..	..	..	..	..	..	..	..
Congo, Rep.	265.9	150.3	178.4	220.1	362.9	212.7	200.3	262.6	359.6	587.8
Côte d'Ivoire	212.7	220.4	154.5	222.2	506.4	159.5	162.9	119.4	233.0	331.7
Djibouti	..	..	..	..	..	..	..	..	..	..
Equatorial Guinea	..	..	..	..	..	..	..	..	..	..
Eritrea	..	..	..	..	..	..	295.1	354.3	347.0	500.2
Ethiopia	..	260.8	201.6	127.7	734.4	294.7	154.3	119.3	144.7	350.0
Gabon	..	..	..	..	..	..	..	..	..	..
Gambia, The	170.4	206.2	136.9	175.0	258.3	211.3	419.0	134.5	311.2	293.3
Ghana	416.9	393.3	306.6	577.8	826.0	188.9	215.1	171.7	366.5	445.6
Guinea	220.2	245.1	405.5	138.2	128.8	191.0	245.1	166.7	152.0	127.0
Guinea-Bissau	..	..	351.1	474.8	893.2	..	76.2	842.7	1,168.0	1,382.3
Kenya	72.7	107.2	299.9	378.8	627.5	104.3	155.6	190.3	201.7	471.0
Lesotho	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	..	..	..	..	..	..
Madagascar	119.9	170.0	190.6	125.9	314.9	337.8	178.6	143.8	84.5	226.5
Malawi	139.1	117.8	594.4	718.5	1,060.8	96.3	47.1	111.9	184.7	291.5
Mali	223.3	236.4	154.5	269.7	264.5	134.7	166.3	107.7	197.5	172.0
Mauritania	..	..	..	..	..	..	..	..	..	..
Mauritius	..	..	..	..	..	303.5	287.6	171.4	185.9	221.1
Mozambique	181.1	135.8	90.6	163.3	..	132.7	92.4	51.8	154.5	..
Namibia	..	..	..	..	..	166.6	193.3	145.1	276.6	262.6
Niger	260.4	214.4	154.5	201.0	260.2	163.0	138.2	118.0	173.0	226.4
Nigeria	761.3	652.2	279.4	545.1	519.4	334.8	661.3	198.4	477.5	486.9
Rwanda	199.7	873.4	582.1	480.2	659.2	259.0	194.5	211.0	104.2	138.5
São Tomé and Príncipe	..	..	..	..	..	..	..	..	..	..
Senegal	..	..	..	..	..	..	..	..	..	..
Seychelles	..	..	..	..	..	..	..	..	..	..
Sierra Leone	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	129.3	159.1	78.5	99.3	200.9
Sudan	962.2	205.2	388.9	497.3	125,651.2	1,538.6	328.1	621.9	184.6	42,295.8
Swaziland	..	..	..	..	..	..	..	..	..	..
Tanzania	..	..	..	..	..	..	..	..	..	..
Togo	283.6	232.4	165.7	258.3	375.2	205.6	190.3	120.8	294.4	495.8
Uganda	..	..	..	..	..	..	..	..	..	..
Zambia	..	..	..	..	..	..	..	..	..	..
Zimbabwe	215.4	288.5	255.1	346.4	..	74.6	121.2	123.8	100.5	..
NORTH AFRICA										
Algeria	270.7	544.5	344.8	421.4	581.2	173.2	335.7	212.6	259.8	358.3
Egypt, Arab Rep.	127.5	193.4	167.9	185.0	269.7	140.5	151.5	174.8	179.3	260.3
Libya	..	..	..	..	..	..	..	..	..	..
Morocco	436.5	445.0	276.4	325.2	405.1	242.3	292.7	223.0	225.8	398.7
Tunisia	..	..	..	..	..	..	..	..	..	..

Sorghum (current \$ per metric ton)					Millet (current \$ per metric ton)				
1991	1995	2000	2005	2008	1991	1995	2000	2005	2008
..
..
..
212.7	134.4	84.3	178.7	225.3	212.7	152.9	84.3	178.7	217.0
330.6	328.3	374.7	324.2	430.5	..	..	..	..	..
177.2	160.3	313.8	217.0	269.4	..	..	..	..	..
..
..
..
..
..
..
342.4	252.2	2,103.1	336.6	325.4	460.8	391.3	245.7	415.4	376.9
..
..
..	212.4	284.7	391.7	571.0	..	337.2	434.3	645.3	939.4
362.3	193.2	142.1	188.7	446.4	294.7	216.0	144.8	170.0	461.5
..
213.6	193.3	129.0	334.3	316.4	218.8	388.9	128.2	310.1	266.6
217.5	212.9	153.1	424.4	514.9	308.6	245.0	205.9	495.3	619.6
187.0	263.8	179.4	120.7	139.4	..	..	..	..	..
..	..	351.1	854.6	1,287.9	..	..	..	..	..
207.7	194.1	204.1	331.8	319.8	256.6	361.3	311.1	485.5	487.7
..
..
..
176.6	72.0	500.6	514.4	661.0	133.2	65.1	518.6	642.7	919.6
145.3	198.3	87.4	233.6	197.2	156.0	194.3	85.1	254.5	192.7
..
..
63.9	47.9	51.8	141.3	..	..	..	..	..	..
147.8	182.0	157.4	263.2	244.4	147.8	209.5	157.4	263.2	244.4
140.2	96.2	77.3	117.4	154.2	150.1	96.2	108.2	135.1	175.8
368.1	847.7	190.3	509.0	370.2	339.6	413.3	184.5	493.7	402.1
234.0	450.1	211.0	138.8	186.0	..	..	..	..	..
..
..
..
..
..
106.8	132.9	74.9	70.9	214.7	..	..	..	..	..
943.0	92.7	165.6	335.2	3,297.7	1,206.4	278.6	655.1	433.6	5,426.7
..
..
237.5	246.4	140.5	364.6	629.7	265.9	238.4	122.2	305.8	407.5
..
..
69.0	75.0	90.1	100.6	..	71.8	60.0	90.1	100.6	..
152.3	207.7	131.5	160.8	221.7	..	..	..	..	..
141.2	166.9	184.0	186.7	264.3	..	..	..	..	..
..
218.2	402.8	218.3	292.5	384.5	..	..	..	..	..
..

Table 8.4 Environment

	Forest area (% of land area)		Renewable internal fresh water resources		Annual fresh water withdrawals (billions of cubic meters)	Water productivity (2000 \$ per cubic meter of fresh water withdrawal)	Water pollution Emissions of organic water pollutants (kilograms per day)	Energy					
	1990	2010	Total (billions of cubic meters)	Per capita (cubic meters)				Energy production (kilotons of oil equivalent)		Energy use (kilotons of oil equivalent)		Combustible renewables and waste (% of total energy use)	
	1990	2010	2007	2007	2000–05 ^a	2000–07 ^a	2000–07 ^a	1990	2008	1990	2008	1990	2008
SUB-SAHARAN AFRICA	31.3	28.0	3,884	4,850	103.6			475,369	809,956	310,313	497,224	56.6	57.7
Angola	48.9	46.9	148	8,431	0.6	14.3	..	28,652	105,837	5,883	10,972	73.5	63.5
Benin	52.1	41.2	10	1,227	0.1	18.2	..	1,774	1,833	1,661	3,005	94.2	61.0
Botswana	24.2	20.0	2	1,268	0.2	29.0	3,246	910	1,002	1,261	2,117	33.4	22.3
Burkina Faso	25.0	20.6	13	849	1.0	2.7	..	..	..	..	..	..	..
Burundi	11.3	6.7	10	1,284	0.3	2.5	..	..	..	..	..	..	..
Cameroon	51.4	42.1	273	14,630	1.0	10.5	..	10,976	10,119	4,980	7,102	76.7	71.0
Cape Verde	14.3	21.1	0	610	0.0	27.2	..	..	..	..	..	..	..
Central African Republic	37.2	36.3	141	33,119	0.1	14.4	..	..	..	..	..	..	..
Chad	10.4	9.2	15	1,412	0.4	3.8	..	..	..	..	..	..	..
Comoros	6.4	1.6	1	1,910	..	..	..	..	..	..	..	..	..
Congo, Dem. Rep.	70.7	68.0	900	14,395	0.6	6.9	..	12,019	22,664	11,798	22,250	84.7	93.4
Congo, Rep.	66.5	65.6	222	62,516	0.0	76.0	..	8,746	13,245	797	1,368	59.5	51.3
Côte d'Ivoire	32.1	32.7	77	3,819	1.4	7.4	..	3,382	11,415	4,323	10,278	73.5	74.0
Djibouti	0.2	0.3	0	360	0.0	29.2	..	..	..	..	..	..	..
Equatorial Guinea	66.3	58.0	26	40,485	0.0	72.1	..	..	..	..	..	..	..
Eritrea	..	15.2	3	586	0.6	1.2	2,540	..	546	..	681	..	80.0
Ethiopia	15.2	12.3	122	1,551	5.6	1.6	32,159	14,052	29,581	14,866	31,704	93.9	92.4
Gabon	85.4	85.4	164	115,340	0.1	39.0	..	14,630	13,519	1,181	2,073	62.9	52.5
Gambia, The	44.2	48.0	3	1,857	0.1	5.9	..	..	..	..	..	..	..
Ghana	32.7	21.7	30	1,325	1.0	5.1	16,048	4,392	6,858	5,291	9,459	73.7	66.8
Guinea	29.6	26.6	226	23,505	1.6	1.9	..	..	..	..	..	..	..
Guinea-Bissau	78.8	71.9	16	10,383	0.2	1.2	..	..	..	..	..	..	..
Kenya	6.5	6.1	21	548	2.7	5.0	..	9,013	15,108	10,940	18,021	77.9	76.9
Lesotho	1.3	1.4	5	2,574	0.1	14.9	5,252	..	..	..	..	..	..
Liberia	51.2	44.9	200	55,138	0.2	3.1	..	..	..	..	..	..	..
Madagascar	23.5	21.6	337	18,114	14.7	0.3	92,770	..	..	..	..	..	..
Malawi	41.4	34.4	16	1,118	1.0	1.8	32,672	..	..	..	..	..	..
Mali	11.5	10.2	60	4,835	6.5	0.4	..	..	..	..	..	..	..
Mauritania	0.4	0.2	0	127	1.6	0.7	..	..	..	..	..	..	..
Mauritius	19.1	17.2	3	2,182	0.7	6.9	15,446	..	..	..	..	..	..
Mozambique	55.2	49.6	100	4,586	0.7	5.7	..	5,608	11,460	5,922	9,314	93.9	81.9
Namibia	10.6	8.9	6	2,949	0.3	13.0	..	..	317	..	1,752	..	11.2
Niger	1.5	1.0	4	248	2.4	0.8	..	..	..	..	..	..	..
Nigeria	18.9	9.9	221	1,496	10.3	4.5	..	150,452	226,793	70,582	111,156	80.2	81.2
Rwanda	12.9	17.6	10	1,005	0.2	11.6	..	..	..	..	..	..	..
São Tomé and Príncipe	28.1	28.1	2	13,829	..	..	..	..	..	..	..	..	..
Senegal	48.6	44.0	26	2,169	2.2	2.2	6,621	964	1,230	1,686	2,859	56.8	41.7
Seychelles	88.5	89.1	..	..	0.0	47.1	..	..	..	..	..	..	..
Sierra Leone	43.5	38.1	160	29,518	0.5	1.3	..	..	..	..	..	..	..
Somalia	13.2	10.8	6	687	3.3	..	..	..	..	..	..	..	..
South Africa	7.6	4.7	45	928	12.5	10.6	229,582	114,535	162,951	90,860	134,489	11.5	10.4
Sudan	32.1	29.4	30	742	37.1	0.3	38,567	8,775	34,874	10,629	15,372	81.8	68.0
Swaziland	27.4	32.7	3	2,293	1.0	1.4	..	..	..	..	..	..	..
Tanzania	46.8	37.7	84	2,035	5.2	2.2	30,322	9,064	17,470	9,733	18,957	91.7	88.2
Togo	12.6	5.3	12	1,825	0.2	8.2	..	1,054	2,138	1,263	2,563	82.8	83.1
Uganda	24.1	15.2	39	1,273	0.3	21.5	2,105	..	..	..	..	..	..
Zambia	71.0	66.5	80	6,513	1.7	1.9	..	4,918	6,790	5,399	7,355	74.3	81.0
Zimbabwe	57.3	40.4	12	985	4.2	1.5	..	8,550	8,533	9,297	9,506	50.9	65.3
NORTH AFRICA	1.3	1.4	47	290				234,657	361,445	77,234	150,155	2.8	2.3
Algeria	0.7	0.6	11	332	6.1	9.6	..	100,114	162,044	22,192	37,069	0.1	0.1
Egypt, Arab Rep.	0.0	0.1	2	23	68.2	1.5	..	54,869	87,487	31,825	70,710	3.3	2.1
Libya	0.1	0.1	1	97	4.3	7.9	..	73,173	103,743	11,330	18,221	1.1	0.9
Morocco	11.3	11.5	29	929	12.6	2.9	73,989	773	637	6,941	14,977	4.6	3.2
Tunisia	4.1	6.5	4	410	2.8	7.2	..	5,728	7,534	4,946	9,178	12.9	13.6

a. Data are for the most recent year available during the period specified.

b. Hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.

		Greenhouse gas emissions																			
		Methane						Nitrous oxide						Other greenhouse gases ^b		ODA gross disbursements for general environment protection					
Carbon dioxide (thousands of metric tons)		Total (kilotons of carbon dioxide equivalent)				Agricultural (% of total)		Industrial (% of total)		Total (metric tons of carbon dioxide equivalent)				Agricultural (% of total)		Industrial (% of total)		(thousands of metric tons of carbon dioxide equivalent)		ODA gross disbursements for forestry (\$ millions)	
		1990	2007	1990	2005	1990	2005	1990	2005	1990	2005	1990	2005	1990	2005	1990	2005	1990	2005	2009	2009
464,110	682,631	44.0	44.0	32.1	30.2	64.5	66.1	0.3	0.8	120.8	588.2		
4,426	24,743	49,530	45,409	26.4	27.9	21.6	11.6	41,667	38,881	39.2	38.4	0.0	0.0	0	20	0.9	2.5				
715	3,873	4,847	4,080	36.7	47.8	16.1	8.9	3,695	2,902	50.5	61.5	0.0	0.0	0	0	0.0	13.2				
2,169	4,994	5,812	4,501	90.5	84.1	7.7	17.9	5,511	3,081	90.9	92.0	..	0.0	0	0	0.1	3.0				
586	1,693	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.8	10.5
304	180	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0	1.9
1,737	6,163	13,503	18,518	55.2	42.4	20.2	17.9	10,530	9,127	68.1	75.9	0.0	0.0	932	419	4.3	12.3				
88	308	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7.9
198	253	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.9	18.6
147	385	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0	6.0
77	121	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0	0.7
4,067	2,433	96,593	56,445	25.6	23.1	47.9	49.6	87,098	54,643	37.9	31.3	0.0	0.0	0	0	4.0	15.5				
1,187	1,587	6,231	5,584	37.3	31.9	10.4	7.7	4,307	3,566	48.6	51.8	0.0	0.0	0	5	1.2	3.8				
5,793	6,379	11,243	10,997	18.3	17.4	18.9	11.2	7,485	7,364	22.7	29.3	0.0	0.0	0	0	..	1.3				
399	487	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.2	0.5
121	4,793	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.1	0.5
..	579	1,884	2,467	78.7	73.2	11.0	7.5	1,028	1,189	93.0	90.9	0.0	0.0	0	0	0.5	1.0				
3,016	6,504	39,325	52,243	81.6	72.5	9.3	10.0	25,545	30,510	91.9	88.8	0.0	0.0	0	10	7.8	13.5				
6,082	2,034	8,103	8,218	0.9	1.1	46.5	79.9	305	482	25.6	23.3	0.0	0.0	0	9	0.2	5.4				
191	396	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.4
3,928	9,801	7,238	8,990	48.9	39.5	13.7	10.7	5,187	4,899	75.5	70.5	0.0	0.0	596	15	16.3	18.6				
1,055	1,389	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.7	2.1
253	286	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.2
5,818	11,227	17,952	22,130	74.3	65.5	15.7	18.0	9,222	10,542	91.9	88.8	0.0	0.0	0	0	5.7	35.2				
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.1	1.2
484	674	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.1	3.0
986	2,250	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.7	18.8
612	1,055	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.2	5.9
421	579	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3.1	14.1
2,664	1,949	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3.5	11.8
1,462	3,884	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5.2
1,000	2,598	10,863	12,843	66.3	44.2	17.5	16.9	10,881	9,501	82.0	71.4	0.0	0.0	0	282	1.6	17.9				
7	3,034	3,435	5,057	95.8	94.9	3.7	4.7	2,580	3,797	93.2	94.3	0.0	0.0	0	0	1.3	11.6				
953	909	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.2	7.4
45,338	95,194	117,467	130,317	18.5	19.8	47.3	45.5	19,153	21,565	82.1	77.3	0.0	0.0	242	669	0.5	9.9				
682	715	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.0	9.2
66	128	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.2
3,180	5,474	5,277	7,129	68.8	68.3	4.5	4.7	2,976	4,083	88.1	88.5	0.0	0.0	0	0	6.9	54.2				
114	623	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.1
388	1,312	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.9
18	601	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.1
333,241	433,173	51,179	63,785	37.3	31.4	52.4	54.3	21,300	24,048	63.3	59.8	3.6	7.3	1,491	2,552	0.0	26.6				
5,555	11,512	43,370	67,441	87.1	85.2	21.4	21.5	36,669	49,472	92.0	92.6	0.0	0.0	0	0	2.5	15.1				
425	1,063	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.0	1.1
2,371	6,038	25,817	32,024	73.9	63.2	21.3	20.3	21,468	21,647	82.8	78.8	0.0	0.0	0	0	11.0	30.9				
773	1,315	2,752	2,889	52.9	39.8	18.4	14.8	2,209	1,738	74.3	67.5	0.0	0.0	0	0	..	1.2				
817	3,202	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.9	16.9
2,444	2,689	26,944	19,294	66.1	59.3	8.1	5.7	35,669	25,068	75.1	71.7	0.0	3.7	0	0	0.5	11.6				
15,510	9,629	10,112	9,539	79.1	73.3	22.2	24.8	7,284	6,114	84.2	85.2	5.9	0.0	0	0	0.0	1.0				
231,777	452,017	104,128	134,629	21.6	20.6	51.5	48.2	24,023	33,358	72.0	75.3	5.6	7.9	2,668	3,950	5.7	109.9				
78,831	140,005	40,726	54,219	9.1	8.2	61.2	66.3	3,843	4,898	64.3	58.6	4.4	7.2	326	489	0.2	4.6				
75,881	184,508	27,839	46,996	38.0	31.7	33.4	31.2	11,818	18,996	71.5	80.0	8.2	11.5	2,059	3,181	0.0	35.6				
40,286	57,287	22,473	14,682	4.9	5.7	79.1	77.6	1,176	1,285	67.2	51.9	0.0	0.0	282	280	..	0.1				
23,523	46,368	9,132	10,573	58.8	51.7	6.2	2.6	5,180	5,814	85.1	82.6	0.0	0.0	0	0	0.7	40.9				
13,256	23,849	3,958	8,160	44.9	25.5	26.2	32.1	2,006	2,366	59.0	66.4	10.6	4.1	0	0	4.4	22.8				

Table 8.5 Fossil fuel emissions

	Carbon dioxide emissions						Carbon dioxide emissions from fossil fuel (thousands of metric tons)					
	Total (thousands of metric tons)			Per capita (metric tons)			Total			Solid fuel consumption		
	1990	2005	2007	1990	2005	2007	1990	2005	2007	1990	2005	2007
SUB-SAHARAN AFRICA	464,110	656,877	682,631	0.9	0.9	0.9	129,769	183,320	189,853	110,850	143,104	149,751
Angola	4,426	19,756	24,743	0.4	1.2	1.4	1,208	5,392	6,753	0	0	0
Benin	715	2,565	3,873	0.1	0.3	0.5	195	700	1,057	0	0	0
Botswana	2,169	4,521	4,994	1.6	2.5	2.6	592	1,234	1,363	592	702	796
Burkina Faso	586	1,173	1,693	0.1	0.1	0.1	160	320	462	0	0	0
Burundi	304	165	180	0.1	0.0	0.0	83	45	49	4	2	2
Cameroon	1,737	3,693	6,163	0.1	0.2	0.3	..	..	..	..	..	..
Cape Verde	88	297	308	0.2	0.6	0.6	24	81	84	0	0	0
Central African Republic	198	235	253	0.1	0.1	0.1	54	64	69	0	0	0
Chad	147	399	385	0.0	0.0	0.0	40	109	105	0	0	0
Comoros	77	110	121	0.2	0.2	0.2	21	30	33	0	0	0
Congo, Dem. Rep.	4,067	2,275	2,433	0.1	0.0	0.0	1,110	621	664	209	273	303
Congo, Rep.	1,187	1,605	1,587	0.5	0.5	0.4	324	438	433	0	0	0
Côte d'Ivoire	5,793	8,160	6,379	0.5	0.4	0.3	1,581	2,227	1,741	0	0	0
Djibouti	399	473	487	0.7	0.6	0.6	109	129	133	0	0	0
Equatorial Guinea	121	4,708	4,793	0.3	7.7	7.5	33	1,285	1,308	0	0	0
Eritrea	..	733	579	..	0.2	0.1	..	200	158	..	0	0
Ethiopia	3,016	5,485	6,504	0.1	0.1	0.1	823	1,497	1,775	0	0	0
Gabon	6,082	1,861	2,034	6.6	1.4	1.4	1,660	508	555	0	0	0
Gambia, The	191	322	396	0.2	0.2	0.2	52	88	108	0	0	0
Ghana	3,928	7,467	9,801	0.3	0.3	0.4	1,072	2,038	2,675	2	0	0
Guinea	1,055	1,359	1,389	0.2	0.1	0.1	288	371	379	0	0	0
Guinea-Bissau	253	264	286	0.2	0.2	0.2	69	72	78	0	0	0
Kenya	5,818	10,944	11,227	0.2	0.3	0.3	1,588	2,987	3,064	110	78	80
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..
Liberia	484	737	674	0.2	0.2	0.2	132	201	184	0	0	0
Madagascar	986	2,173	2,250	0.1	0.1	0.1	269	593	614	9	7	7
Malawi	612	1,037	1,055	0.1	0.1	0.1	167	283	288	13	43	44
Mali	421	568	579	0.0	0.0	0.0	115	155	158	0	0	0
Mauritania	2,664	1,656	1,949	1.3	0.6	0.6	727	452	532	4	0	0
Mauritius	1,462	3,408	3,884	1.4	2.7	3.1	399	930	1,060	54	264	415
Mozambique	1,000	1,854	2,598	0.1	0.1	0.1	273	506	709	42	0	7
Namibia	7	2,656	3,034	0.0	1.3	1.5	2	725	828	0	14	56
Niger	953	824	909	0.1	0.1	0.1	260	225	248	98	103	105
Nigeria	45,338	110,371	95,194	0.5	0.8	0.6	12,374	30,123	25,981	35	8	8
Rwanda	682	689	715	0.1	0.1	0.1	186	188	195	0	0	0
São Tomé and Príncipe	66	128	128	0.6	0.8	0.8	18	35	35	0	0	0
Senegal	3,180	5,529	5,474	0.4	0.5	0.5	868	1,509	1,494	0	114	218
Seychelles	114	696	623	1.6	8.4	7.3	31	190	170	0	0	0
Sierra Leone	388	1,260	1,312	0.1	0.2	0.2	106	344	358	0	0	0
Somalia	18	579	601	0.0	0.1	0.1	5	158	164	0	0	0
South Africa	333,241	407,895	433,173	9.5	8.6	9.0	90,950	111,325	118,224	72,352	95,970	100,415
Sudan	5,555	10,992	11,512	0.2	0.3	0.3	1,516	3,000	3,142	0	0	0
Swaziland	425	1,019	1,063	0.5	0.9	0.9	116	278	290	116	104	109
Tanzania	2,371	5,082	6,038	0.1	0.1	0.1	647	1,387	1,648	3	54	62
Togo	773	1,337	1,315	0.2	0.2	0.2	211	365	359	0	0	0
Uganda	817	2,338	3,202	0.0	0.1	0.1	223	638	874	0	0	0
Zambia	2,444	2,363	2,689	0.3	0.2	0.2	667	645	734	227	98	111
Zimbabwe	15,510	10,780	9,629	1.5	0.9	0.8	4,233	2,942	2,628	3,666	2,318	2,073
NORTH AFRICA	231,777	424,566	452,017	1.9	2.7	2.8	63,258	115,875	123,367	3,567	6,292	6,878
Algeria	78,831	138,741	140,005	3.1	4.2	4.1	21,515	37,866	38,211	825	666	859
Egypt, Arab Rep.	75,881	163,220	184,508	1.3	2.1	2.3	20,710	44,547	50,357	917	924	966
Libya	40,286	55,997	57,287	9.2	9.5	9.3	10,995	15,283	15,635	4	0	0
Morocco	23,523	43,825	46,368	0.9	1.4	1.5	6,420	11,961	12,655	1,278	3,844	4,115
Tunisia	13,256	22,783	23,849	1.6	2.3	2.3	3,618	6,218	6,509	72	0	0

Note: 0 refers to a negligible value that rounds to 0.

Carbon dioxide emissions from fossil fuel
(thousands of metric tons)

Liquid fuel consumption			Gas fuel consumption			Gas flaring			Cement production		
1990	2005	2007	1990	2005	2007	1990	2005	2007	1990	2005	2007
42,649	48,703	49,016	..	..	..	..	..	..	2,906	4,815	6,229
489	1,460	2,296	276	341	435	409	3,412	3,832	35	179	190
154	666	846	0	0	0	0	0	0	41	34	211
0	532	568	0	0	0	0	0	0	0	0	0
160	316	458	0	0	0	0	0	0	0	4	4
79	43	47	0	0	0	0	0	0	0	0	0
..
24	81	84	0	0	0	0	0	0	0	0	0
54	64	69	0	0	0	0	0	0	0	0	0
40	109	105	0	0	0	0	0	0	0	0	0
21	30	33	0	0	0	0	0	0	0	0	0
838	348	362	0	0	0	0	0	0	63	0	0
265	358	347	1	12	11	46	0	0	12	69	75
1,513	1,228	1,025	0	910	629	0	0	0	68	88	88
109	129	133	0	0	0	0	0	0	0	0	0
33	142	163	0	605	876	0	538	269	0	0	0
..	194	152	..	0	0	..	0	0	..	6	6
777	1,284	1,544	0	0	0	0	0	0	46	213	231
583	408	443	138	65	82	924	0	0	16	35	31
52	87	106	0	1	1	0	0	0	0	0	0
978	1,780	2,417	0	0	0	0	0	0	92	258	258
288	322	330	0	0	0	0	0	0	0	49	49
69	72	78	0	0	0	0	0	0	0	0	0
1,273	2,620	2,669	0	0	0	0	0	0	205	289	315
..
125	181	163	0	0	0	0	0	0	7	20	21
252	566	570	0	0	0	0	0	0	8	20	37
141	217	219	0	0	0	0	0	0	13	23	25
112	155	158	0	0	0	0	0	0	3	0	0
709	411	476	0	0	0	0	0	0	14	41	56
345	666	645	0	0	0	0	0	0	0	0	0
220	392	505	0	38	82	0	0	0	11	76	116
2	711	772	0	0	0	0	0	0	0	0	0
159	115	136	0	0	0	0	0	0	3	7	7
9,823	12,143	7,789	2,041	5,572	5,594	0	12,075	11,707	476	326	884
177	173	181	0	0	0	0	0	0	8	14	14
18	35	35	0	0	0	0	0	0	0	0	0
801	1,031	841	3	7	5	0	0	0	64	357	429
31	190	170	0	0	0	0	0	0	0	0	0
106	321	326	0	0	0	0	0	0	0	23	32
0	158	164	0	0	0	0	0	0	5	0	0
16,596	11,526	13,599	940	2,269	2,353	0	0	0	1,062	1,559	1,857
1,493	2,955	3,115	0	0	0	0	0	0	23	45	27
0	173	181	0	0	0	0	0	0	0	0	0
571	962	1,102	0	185	278	0	0	0	73	186	206
157	256	250	0	0	0	0	0	0	54	109	109
219	552	786	0	0	0	0	0	0	4	86	88
381	488	535	0	0	0	0	0	0	59	59	88
471	542	502	0	0	0	0	0	0	95	82	54
34,171	58,630	63,212	17,482	39,841	39,810	..	..	..	4,167	8,848	10,342
6,835	17,270	18,794	10,619	16,706	13,942	2,373	1,688	2,454	862	1,536	2,162
14,323	21,152	23,958	3,552	18,057	20,211	0	0	0	1,918	4,414	5,222
6,058	10,425	10,301	2,599	3,010	3,304	1,969	1,357	1,527	367	492	503
4,541	6,385	6,705	30	237	339	0	0	0	571	1,496	1,496
2,414	3,398	3,454	682	1,831	2,014	1	79	82	449	910	959