

World on the Edge - Supporting Data Set for Chapter 3

[Dust Events in Seoul, South Korea, 1970 - 2006/07](#)

GRAPH: Dust Events in Seoul, South Korea, 1970-2007

[Grain Production, Area, Yield, Consumption, and Imports in Kazakhstan, 1987-2010](#)

GRAPH: Grain Production in Kazakhstan, 1987-2010

GRAPH: Grain Area Harvested in Kazakhstan, 1987-2010

GRAPH: Grain Yield in Kazakhstan, 1987-2010

[Grain Production, Area, Yield, Consumption, and Imports in Lesotho, 1961-2010](#)

GRAPH: Grain Production in Lesotho, 1961-2010

GRAPH: Grain Area Harvested in Lesotho, 1961-2010

GRAPH: Grain Yield in Lesotho, 1961-2010

[Grain Production, Area, Yield, Consumption, and Imports in Haiti, 1961-2010](#)

GRAPH: Grain Production in Haiti, 1961-2010

GRAPH: Grain Area Harvested in Haiti, 1961-2010

GRAPH: Grain Yield in Haiti, 1961-2010

[Grain Production, Area, Yield, Consumption, and Imports in Mongolia, 1961-2010](#)

GRAPH: Grain Production in Mongolia, 1961-2010

GRAPH: Grain Area Harvested in Mongolia, 1961-2010

GRAPH: Grain Yield in Mongolia, 1961-2010

[Grain Production, Area, Yield, Consumption, and Imports in North Korea, 1961-2010](#)

GRAPH: Grain Production in North Korea, 1961-2010

GRAPH: Grain Area Harvested in North Korea, 1961-2010

GRAPH: Grain Yield in North Korea, 1961-2010

[World Grazing Livestock by Type, 1961-2009](#)

GRAPH: World Grazing Livestock by Type, 1961-2009

[Grazing Livestock in Africa, 1961-2009](#)

GRAPH: Grazing Livestock in Africa, 1961-2009

[Grazing Livestock in China, 1961-2009](#)

GRAPH: Grazing Livestock in China, 1961-2009

[Grazing Livestock in Iran, 1961-2008](#)

GRAPH: Grazing Livestock in Iran, 1961-2008

[Grazing Livestock in Nigeria, 1961-2008](#)

GRAPH: Grazing Livestock in Nigeria, 1961-2008

[Grazing Livestock in Pakistan, 1961-2009](#)

GRAPH: Grazing Livestock in Pakistan, 1961-2009

[Grazing Livestock in the United States, 1961-2009](#)

GRAPH: Grazing Livestock in the United States, 1961-2009

[Livestock and Human Populations in Africa, 1961-2008](#)

GRAPH: Livestock and Human Populations in Africa, 1961-2008

[Livestock and Human Populations in Nigeria, 1961-2008](#)

GRAPH: Livestock and Human Populations in Nigeria, 1961-2008

[Livestock and Human Populations in Pakistan, 1961-2008](#)

GRAPH: Livestock and Human Populations in Pakistan, 1961-2008

A full listing of data for the entire book is on-line at:

http://www.earth-policy.org/books/wote/wote_data

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

Dust Events in Seoul, South Korea, 1970 - 2006/07

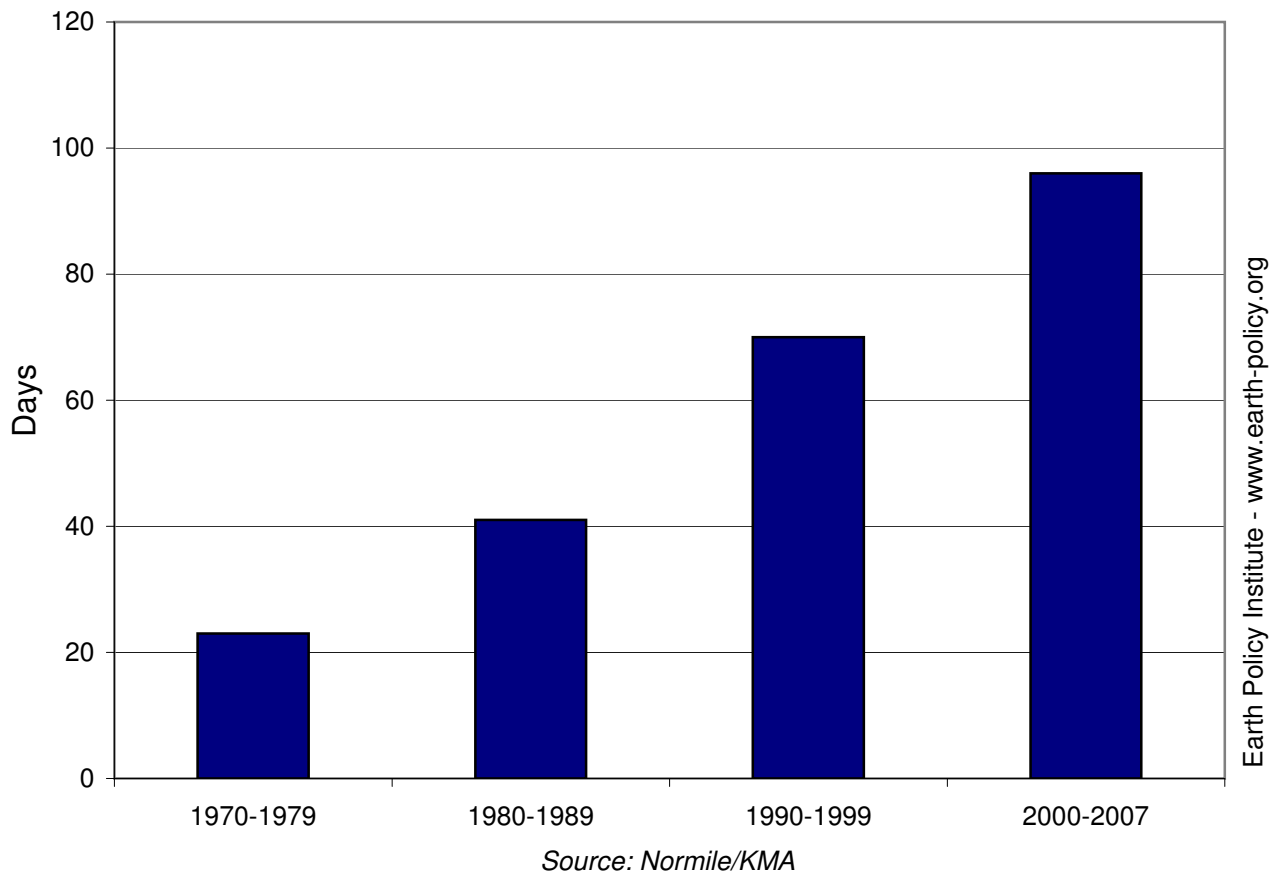
<u>Period</u>	<u>Dust Events</u> Days
1970-1979	23
1980-1989	41
1990-1999	70
<u>2000-2006/07*</u>	<u>96</u>

* Note: Date range is assumed based on the publication date of source article.

Source: Korean Meteorological Administration cited in Dennis Normile, "Getting at the Roots of Killer Dust Storms," *Science*, vol. 317, no. 5836 (20 July 2007), pp. 314–16.

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Dust Events in Seoul, South Korea, 1970 - 2006/07



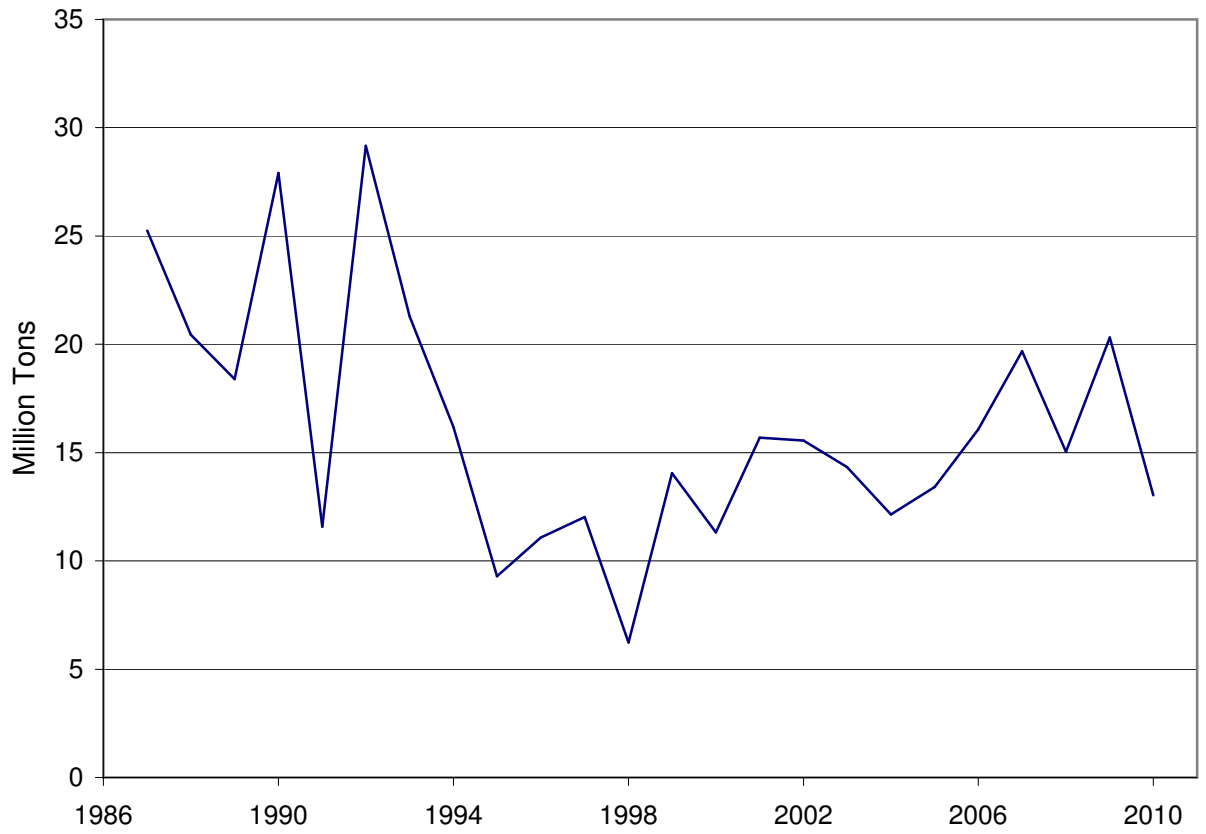
Grain Production, Area, Yield, Consumption, and Imports in Kazakhstan, 1987-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of
	Million Tons	Million Hectares		Million Tons	Million Tons	Consumption
			Tons per Hectare			Percent
1987	25.3	24.1	1.05	16.9	0.42	2.5
1988	20.5	23.8	0.86	16.0	0.80	5.0
1989	18.4	23.3	0.79	15.7	1.03	6.5
1990	27.9	22.9	1.22	18.2	0.37	2.0
1991	11.6	22.2	0.52	14.1	1.00	7.1
1992	29.2	21.9	1.33	17.8	0.40	2.3
1993	21.3	21.7	0.98	15.9	0.03	0.2
1994	16.2	20.2	0.80	13.0	0.01	0.0
1995	9.3	18.4	0.50	6.9	0.06	0.8
1996	11.1	16.8	0.66	7.0	0.02	0.3
1997	12.0	15.3	0.79	7.2	0.02	0.3
1998	6.2	11.3	0.55	6.0	0.02	0.3
1999	14.0	10.8	1.30	6.1	0.01	0.2
2000	11.3	12.5	0.90	6.4	0.04	0.5
2001	15.7	12.8	1.22	8.3	0.07	0.8
2002	15.6	13.7	1.13	9.5	0.07	0.7
2003	14.3	13.6	1.05	9.4	0.06	0.6
2004	12.1	14.1	0.86	9.7	0.09	0.9
2005	13.4	14.7	0.91	9.5	0.09	0.9
2006	16.1	14.7	1.10	9.6	0.12	1.2
2007	19.7	15.2	1.30	9.9	0.09	0.9
2008	15.0	16.1	0.94	9.8	0.25	2.6
2009	20.3	17.2	1.18	10.2	0.13	1.3
2010	13.0	16.6	0.79	9.1	0.13	1.4

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at www.fas.usda.gov/psdonline, updated 9 November 2010.

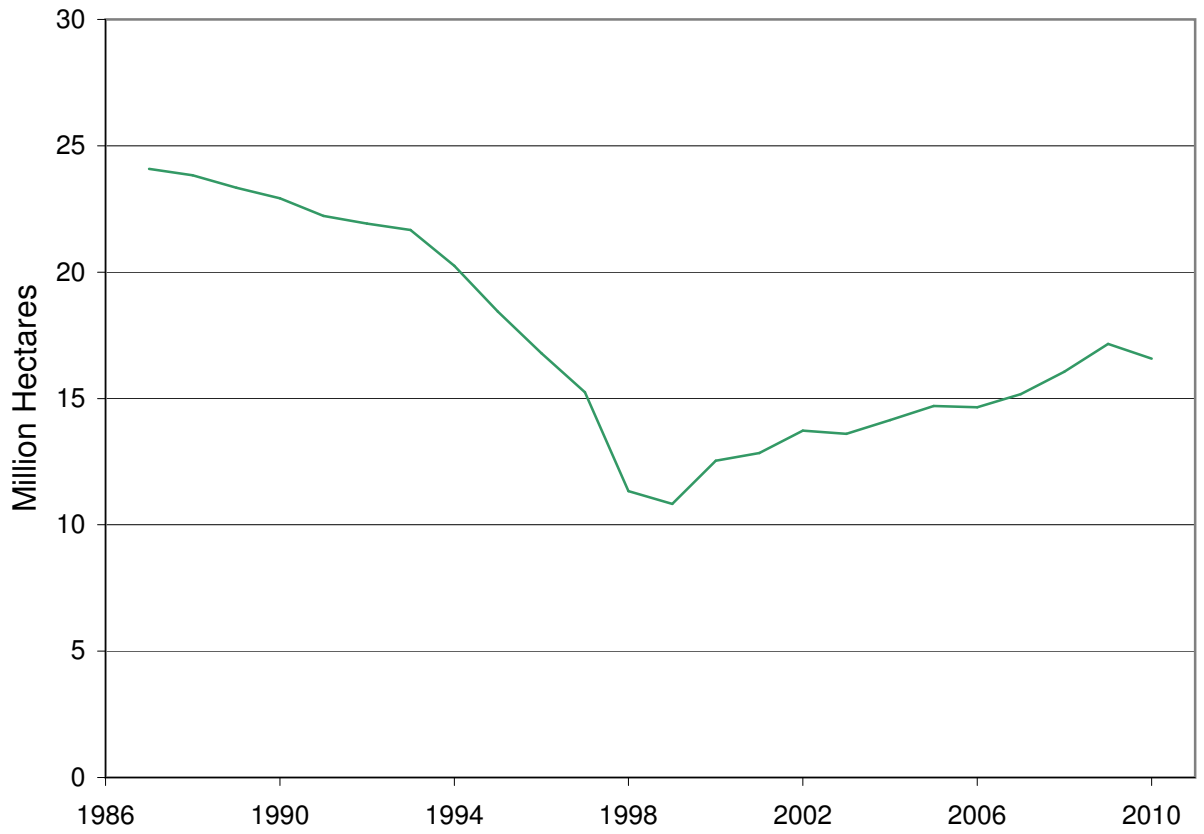
This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

Grain Production in Kazakhstan, 1987-2010



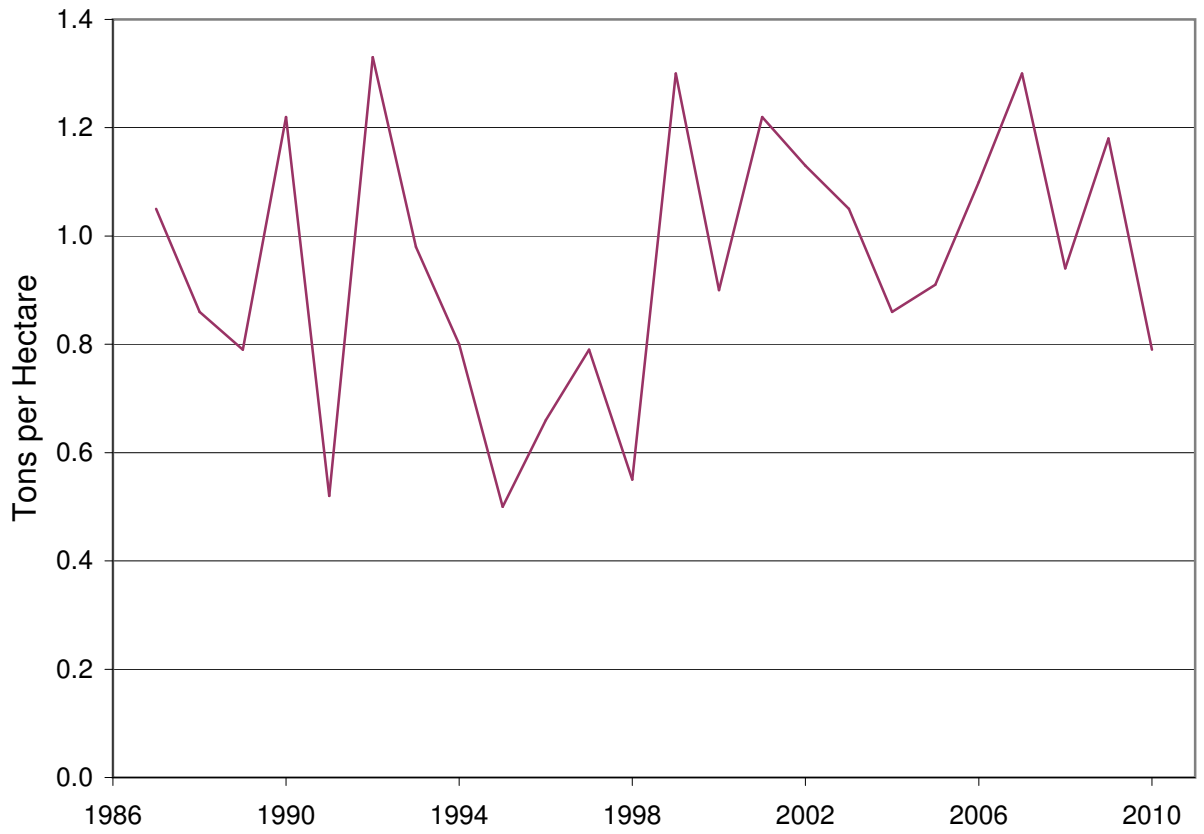
Source: USDA

Grain Area Harvested in Kazakhstan, 1987-2010



Source: USDA

Grain Yield in Kazakhstan, 1987-2010



Source: USDA

Earth Policy Institute - www.earth-policy.org

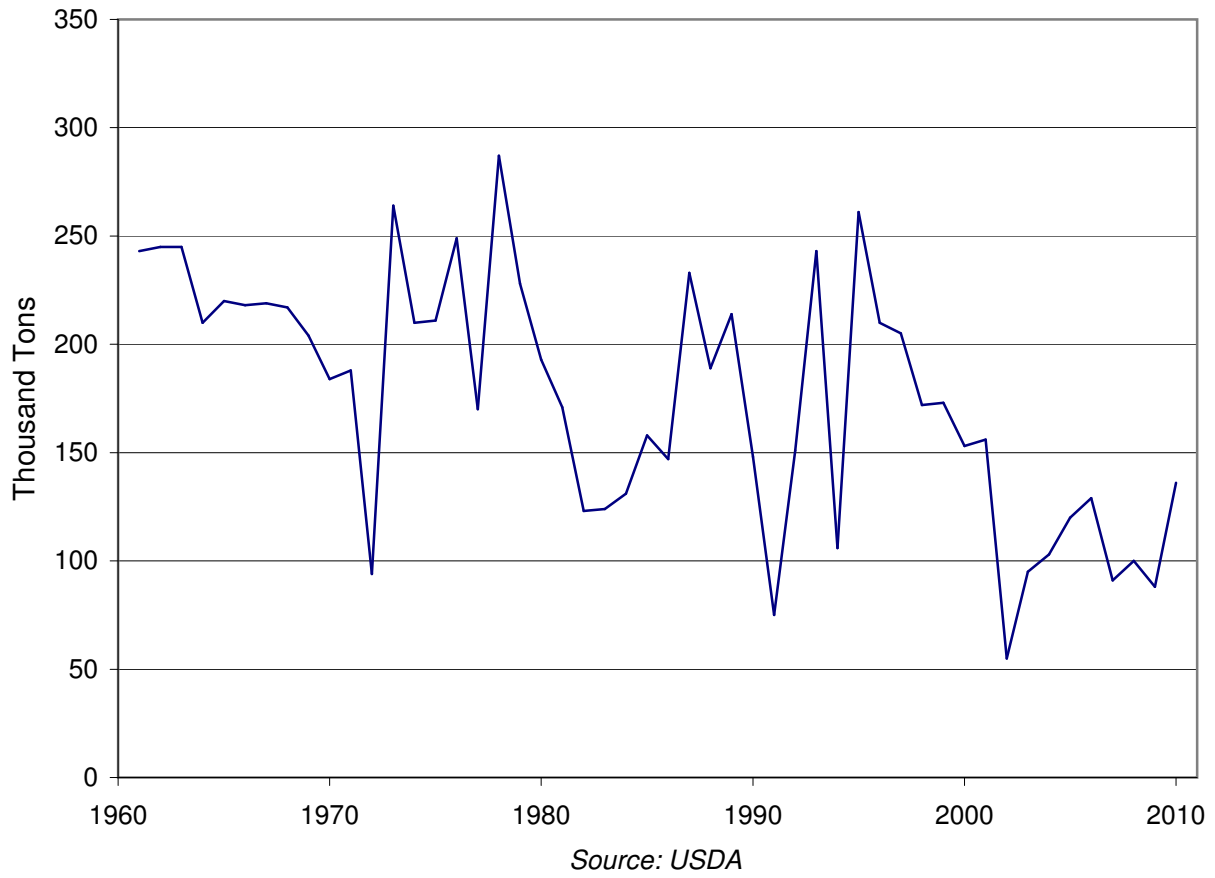
Grain Production, Area, Yield, Consumption, and Imports in Lesotho, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of Consumption
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Percent
1961	243	292	0.83	249	6	2.4
1962	245	300	0.82	250	5	2.0
1963	245	300	0.82	254	9	3.5
1964	210	270	0.78	231	21	9.1
1965	220	273	0.81	241	21	8.7
1966	218	280	0.78	239	21	8.8
1967	219	254	0.86	247	28	11.3
1968	217	311	0.70	246	29	11.8
1969	204	297	0.69	243	39	16.0
1970	184	307	0.60	234	50	21.4
1971	188	319	0.59	238	50	21.0
1972	94	273	0.34	160	66	41.3
1973	264	290	0.91	335	71	21.2
1974	210	283	0.74	276	66	23.9
1975	211	291	0.73	281	70	24.9
1976	249	164	1.52	320	71	22.2
1977	170	231	0.74	239	69	28.9
1978	287	203	1.41	383	96	25.1
1979	228	198	1.15	335	107	31.9
1980	193	200	0.97	351	158	45.0
1981	171	200	0.86	381	210	55.1
1982	123	174	0.71	383	260	67.9
1983	124	194	0.64	176	52	29.5
1984	131	199	0.66	173	42	24.3
1985	158	186	0.85	183	25	13.7
1986	147	214	0.69	160	13	8.1
1987	233	263	0.89	266	33	12.4
1988	189	196	0.96	214	25	11.7
1989	214	211	1.01	215	1	0.5
1990	148	146	1.01	188	40	21.3
1991	75	110	0.68	108	33	30.6
1992	151	154	0.98	211	60	28.4
1993	243	213	1.14	305	62	20.3
1994	106	133	0.80	162	56	34.6
1995	261	197	1.32	290	33	11.4
1996	210	215	0.98	279	68	24.4
1997	205	214	0.96	215	7	3.3
1998	172	180	0.96	182	10	5.5
1999	173	173	1.00	182	9	4.9
2000	153	156	0.98	200	47	23.5
2001	156	172	0.91	291	135	46.4
2002	55	134	0.41	195	140	71.8
2003	95	199	0.48	220	125	56.8
2004	103	158	0.65	228	125	54.8
2005	120	208	0.58	215	95	44.2
2006	129	208	0.62	229	100	43.7
2007	91	157	0.58	241	150	62.2
2008	100	185	0.54	275	175	63.6
2009	88	170	0.52	263	175	66.5
2010	136	170	0.80	311	175	56.3

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at www.fas.usda.gov/psdonline, updated 9 November 2010.

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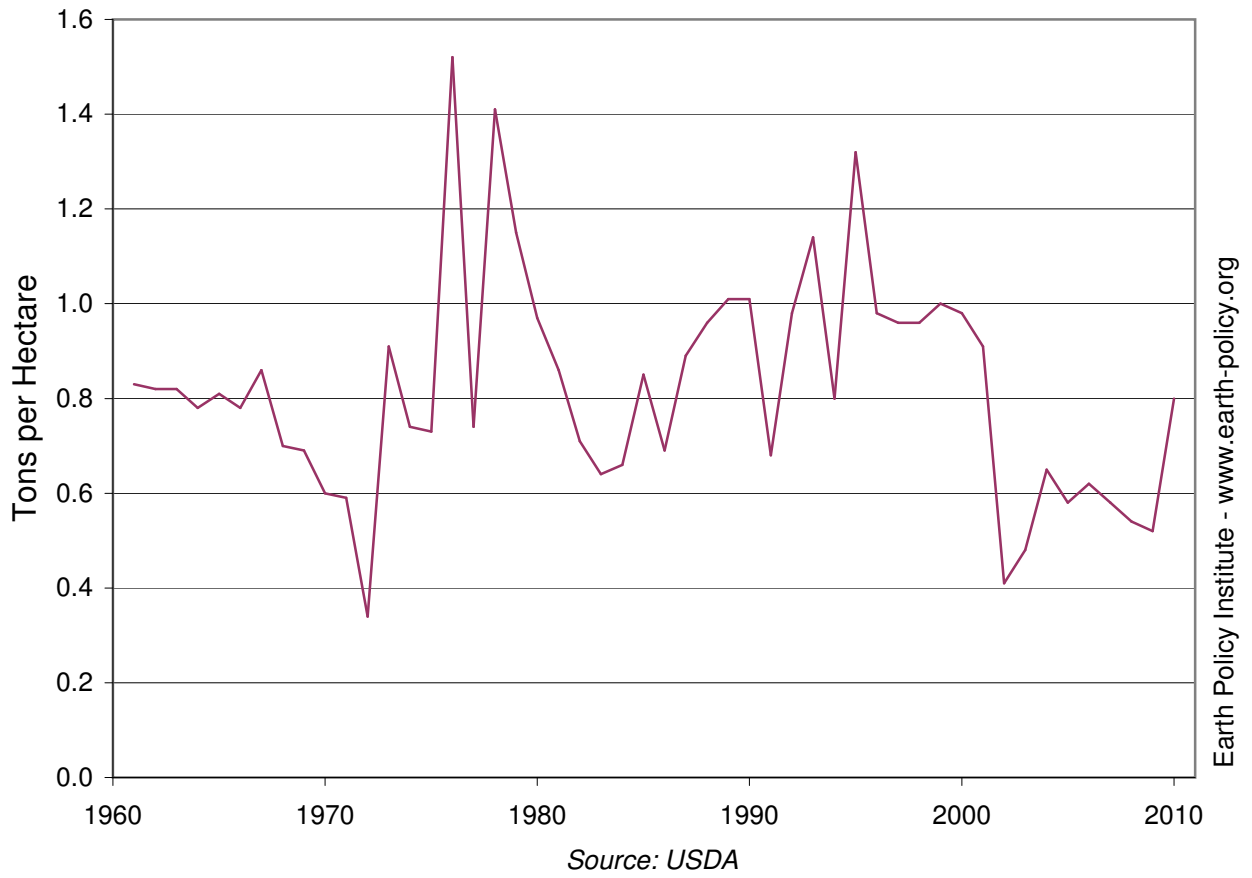
Grain Production in Lesotho, 1961-2010



Grain Area Harvested in Lesotho, 1961-2010



Grain Yield in Lesotho, 1961-2010



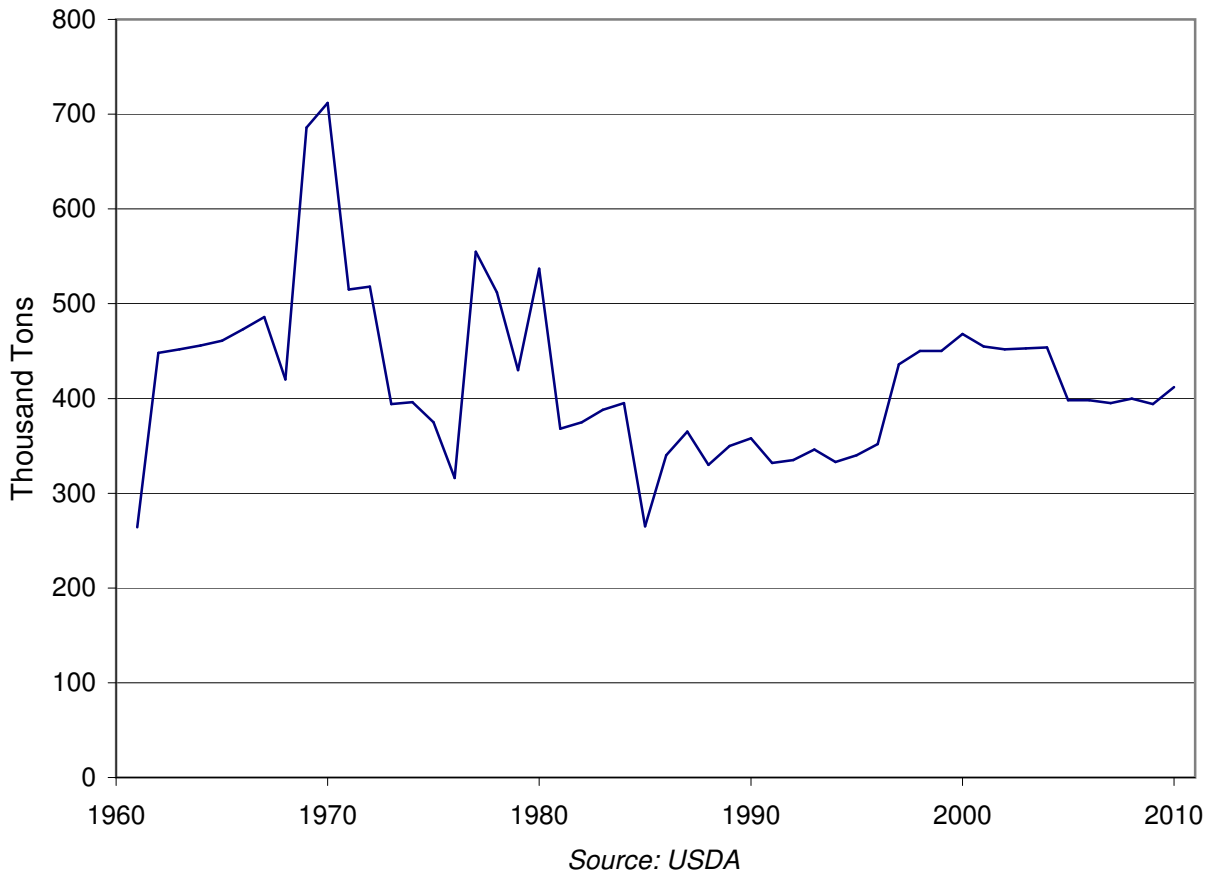
Grain Production, Area, Yield, Consumption, and Imports in Haiti, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Consumption Percent
1961	264	348	0.76	329	65	19.8
1962	448	614	0.73	495	47	9.5
1963	452	615	0.73	502	50	10.0
1964	456	620	0.74	509	53	10.4
1965	461	625	0.74	518	57	11.0
1966	473	645	0.73	514	41	8.0
1967	486	660	0.74	521	35	6.7
1968	420	602	0.70	482	62	12.9
1969	686	840	0.82	721	35	4.9
1970	712	835	0.85	753	43	5.7
1971	515	625	0.82	558	48	8.6
1972	518	636	0.81	600	82	13.7
1973	394	616	0.64	468	74	15.8
1974	396	616	0.64	490	94	19.2
1975	375	580	0.65	546	171	31.3
1976	316	550	0.57	459	150	32.7
1977	555	465	1.19	645	147	22.8
1978	512	465	1.10	660	122	18.5
1979	430	455	0.95	619	151	24.4
1980	537	460	1.17	716	194	27.1
1981	368	405	0.91	533	165	31.0
1982	375	405	0.93	547	177	32.4
1983	388	410	0.95	582	194	33.3
1984	395	415	0.95	620	220	35.5
1985	265	275	0.96	528	257	48.7
1986	340	370	0.92	637	297	46.6
1987	365	385	0.95	598	233	39.0
1988	330	345	0.96	648	318	49.1
1989	350	360	0.97	618	279	45.1
1990	358	377	0.95	695	337	48.5
1991	332	375	0.89	722	400	55.4
1992	335	358	0.94	724	397	54.8
1993	346	355	0.97	700	341	48.7
1994	333	353	0.94	790	480	60.8
1995	340	350	0.97	731	388	53.1
1996	352	418	0.84	780	428	54.9
1997	436	485	0.90	860	450	52.3
1998	450	516	0.87	940	490	52.1
1999	450	515	0.87	964	515	53.4
2000	468	517	0.91	942	472	50.1
2001	455	505	0.90	974	544	55.9
2002	452	517	0.87	1,008	603	59.8
2003	453	518	0.87	1,017	531	52.2
2004	454	517	0.88	1,031	589	57.1
2005	398	513	0.78	979	648	66.2
2006	398	514	0.77	993	545	54.9
2007	395	514	0.77	908	472	52.0
2008	400	520	0.77	999	561	56.2
2009	394	520	0.76	910	510	56.0
2010	412	520	0.79	930	525	56.5

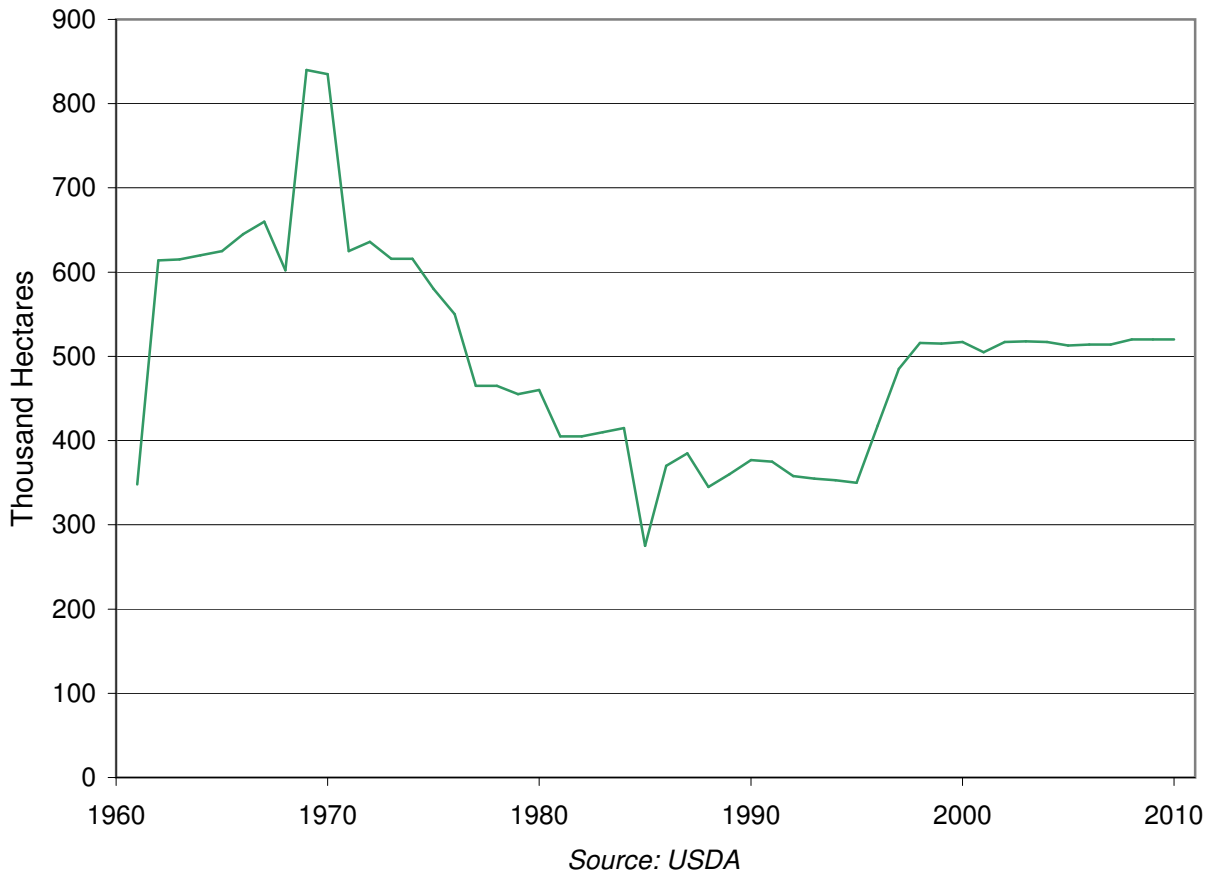
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at www.fas.usda.gov/psdonline, updated 9 November 2010.

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Grain Production in Haiti, 1961-2010



Grain Area Harvested in Haiti, 1961-2010



Grain Yield in Haiti, 1961-2010



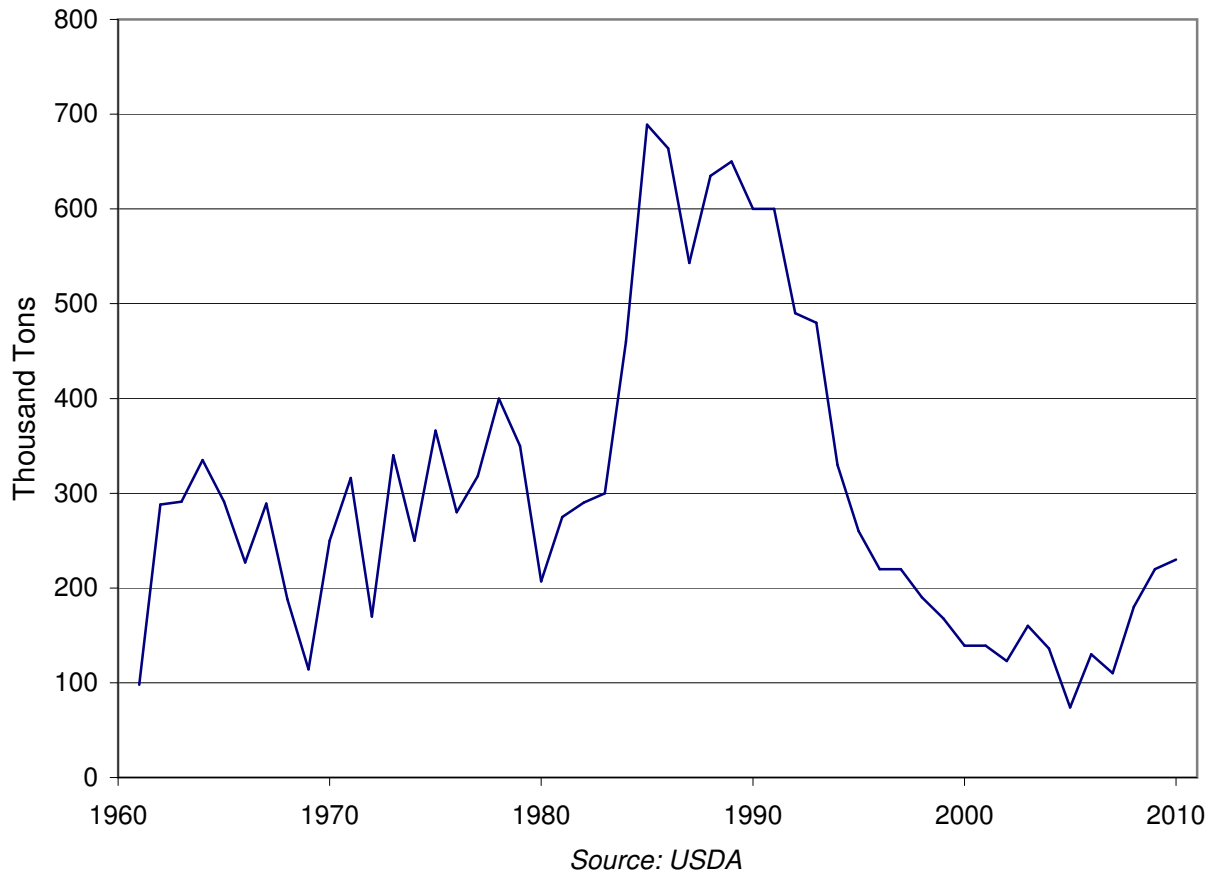
Grain Production, Area, Yield, Consumption, and Imports in Mongolia, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of Consumption
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Percent
1961	98	267	0.37	138	40	29.0
1962	288	320	0.90	340	52	15.3
1963	291	348	0.84	299	8	2.7
1964	335	356	0.94	357	22	6.2
1965	291	362	0.80	357	66	18.5
1966	227	343	0.66	248	21	8.5
1967	289	344	0.84	305	16	5.2
1968	188	346	0.54	204	16	7.8
1969	114	347	0.33	140	26	18.6
1970	250	348	0.72	355	105	29.6
1971	316	333	0.95	371	55	14.8
1972	170	314	0.54	220	50	22.7
1973	340	307	1.11	355	15	4.2
1974	250	305	0.82	265	15	5.7
1975	366	316	1.16	381	15	3.9
1976	280	324	0.86	339	59	17.4
1977	318	351	0.91	411	93	22.6
1978	400	360	1.11	443	43	9.7
1979	350	360	0.97	390	40	10.3
1980	207	408	0.51	247	40	16.2
1981	275	410	0.67	325	50	15.4
1982	290	410	0.71	340	50	14.7
1983	300	410	0.73	350	50	14.3
1984	460	461	1.00	460	0	0.0
1985	689	482	1.43	689	0	0.0
1986	664	467	1.42	664	0	0.0
1987	543	470	1.16	543	0	0.0
1988	635	475	1.34	635	0	0.0
1989	650	475	1.37	650	0	0.0
1990	600	475	1.26	630	30	4.8
1991	600	475	1.26	609	9	1.5
1992	490	590	0.83	529	39	7.4
1993	480	545	0.88	625	145	23.2
1994	330	450	0.73	350	34	9.7
1995	260	355	0.73	310	50	16.1
1996	220	300	0.73	350	130	37.1
1997	220	300	0.73	359	139	38.7
1998	190	300	0.63	349	159	45.6
1999	168	273	0.62	274	106	38.7
2000	139	179	0.78	319	180	56.4
2001	139	193	0.72	393	254	64.6
2002	123	209	0.59	331	208	62.8
2003	160	203	0.79	394	234	59.4
2004	136	168	0.81	333	197	59.2
2005	74	154	0.48	401	327	81.5
2006	130	118	1.10	426	296	69.5
2007	110	117	0.94	338	228	67.5
2008	180	150	1.20	524	344	65.6
2009	220	150	1.47	480	260	54.2
2010	230	150	1.53	480	250	52.1

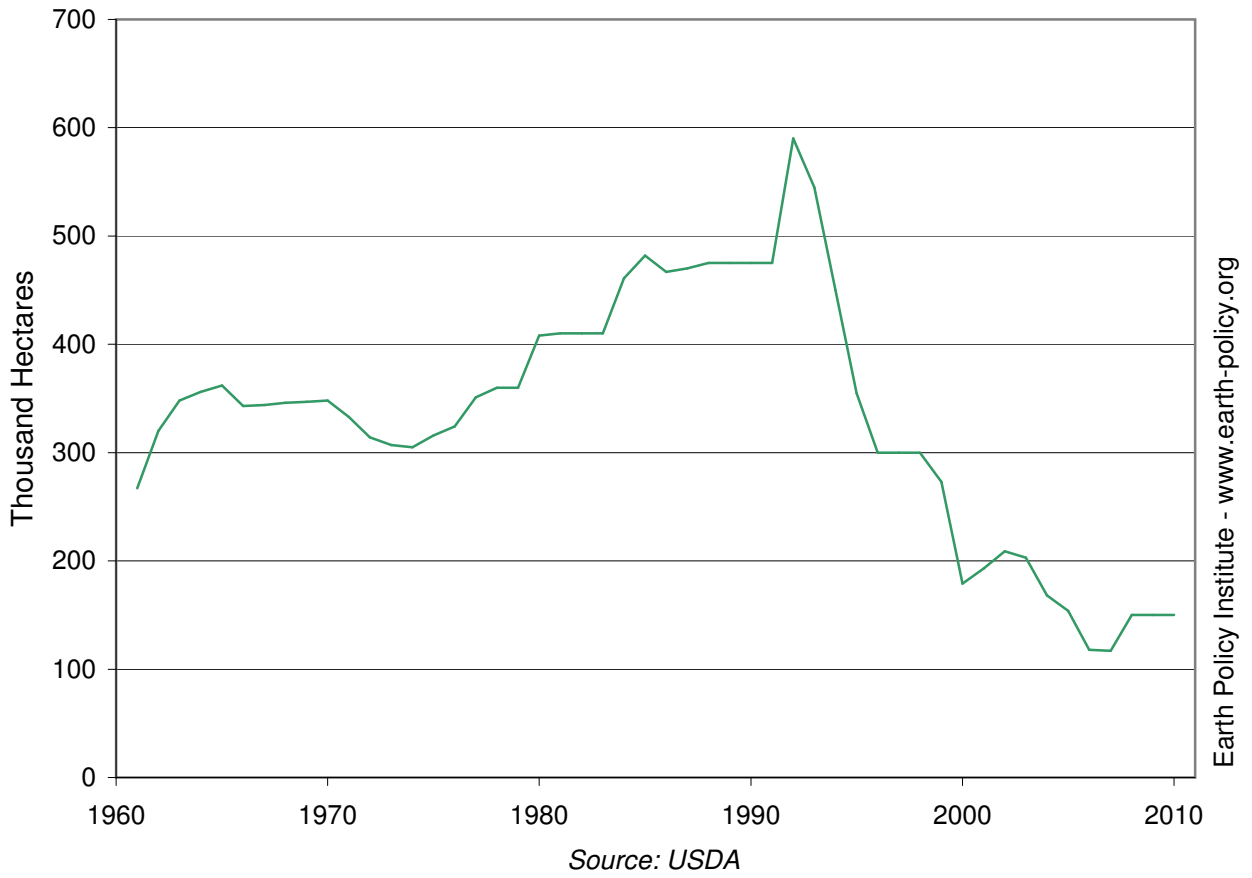
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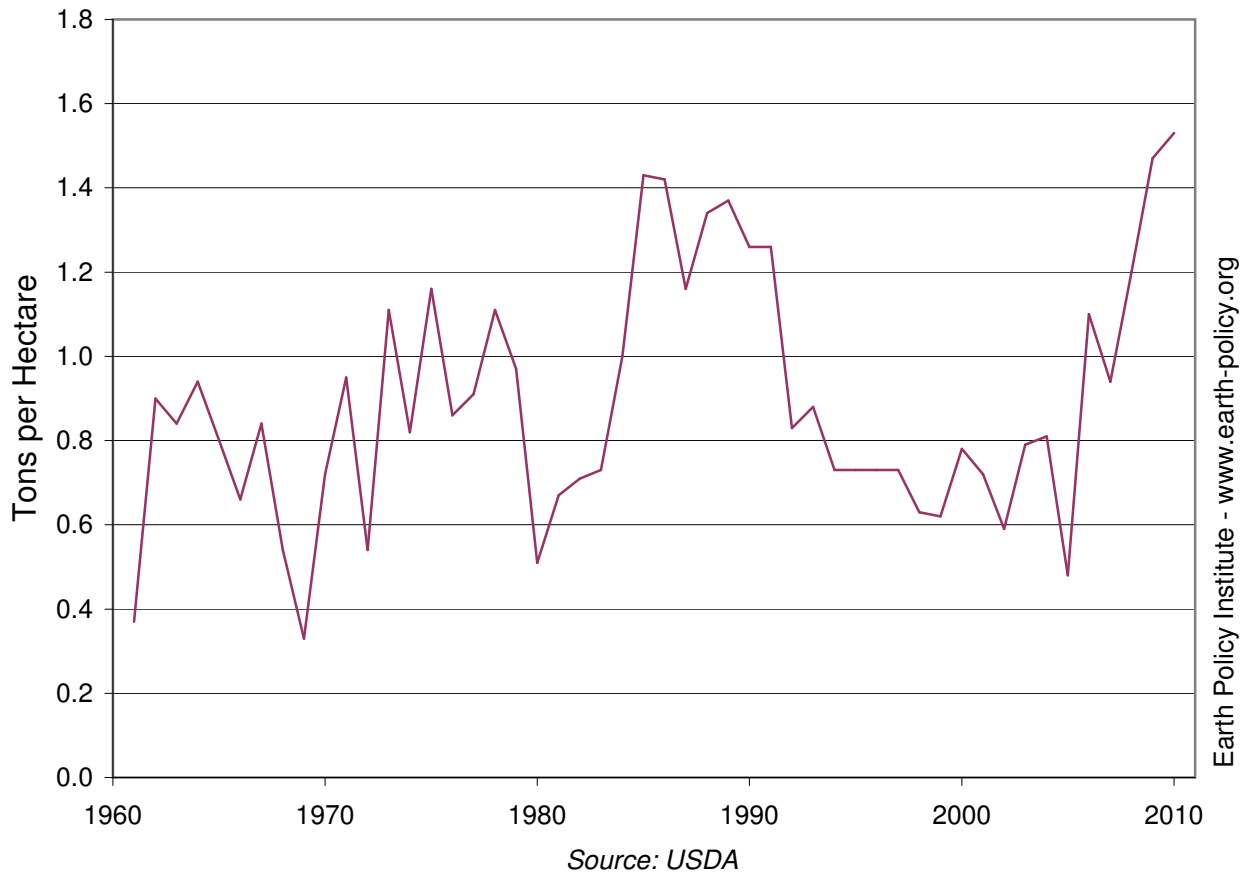
Grain Production in Mongolia, 1961-2010



Grain Area Harvested in Mongolia, 1961-2010



Grain Yield in Mongolia, 1961-2010



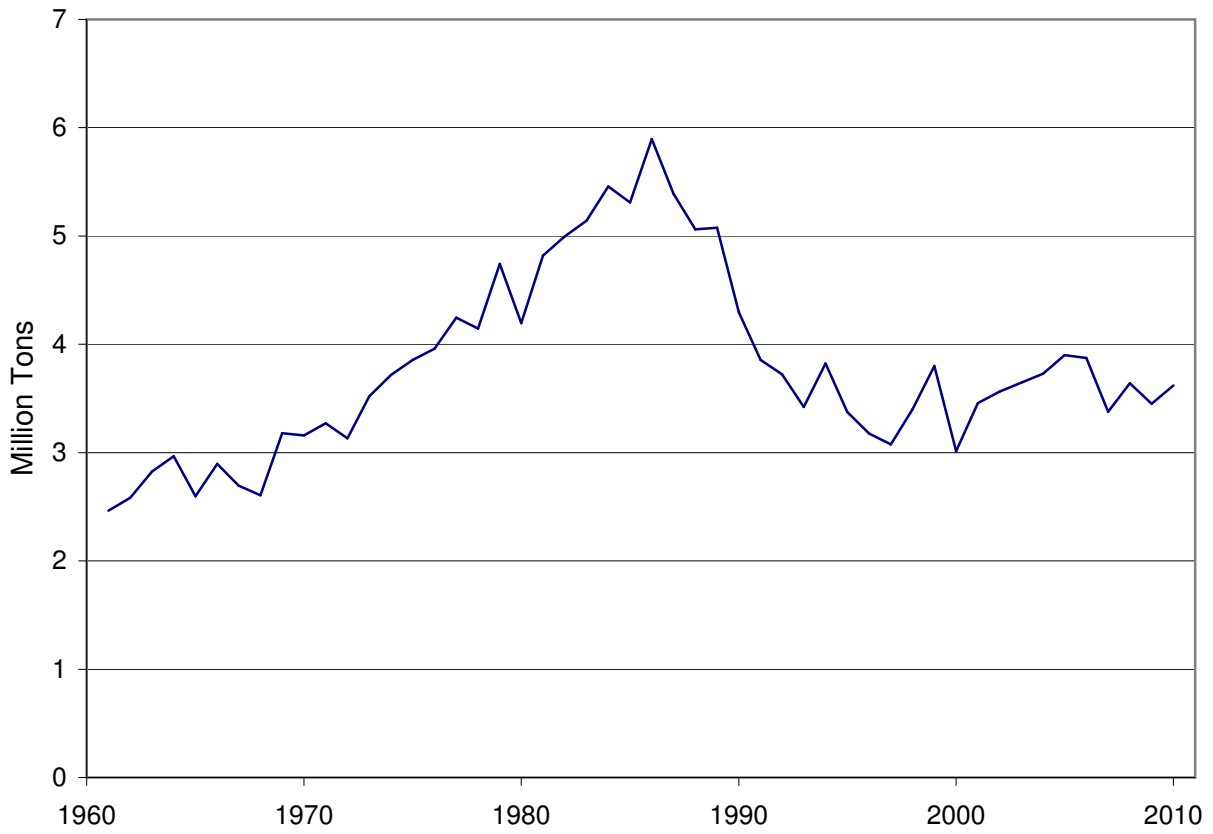
Grain Production, Area, Yield, Consumption, and Imports in North Korea, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of
	Million Tons	Million Hectares	Tons per Hectare	Million Tons	Million Tons	Consumption Percent
1961	2.5	1.2	2.03	2.7	0.24	8.9
1962	2.6	1.2	2.09	2.7	0.13	4.9
1963	2.8	1.2	2.27	2.9	0.11	3.7
1964	3.0	1.3	2.36	3.0	0.11	3.6
1965	2.6	1.3	2.05	2.9	0.38	13.2
1966	2.9	1.3	2.26	3.3	0.53	16.0
1967	2.7	1.3	2.09	2.7	0.04	1.6
1968	2.6	1.3	2.00	2.8	0.33	11.7
1969	3.2	1.3	2.41	3.4	0.31	9.2
1970	3.2	1.3	2.37	3.3	0.27	8.3
1971	3.3	1.4	2.42	3.7	0.48	13.1
1972	3.1	1.4	2.29	3.8	0.79	20.8
1973	3.5	1.4	2.55	4.4	1.16	26.4
1974	3.7	1.4	2.66	3.6	0.43	11.9
1975	3.9	1.4	2.74	3.8	0.35	9.1
1976	4.0	1.4	2.81	3.7	0.33	8.8
1977	4.2	1.4	3.00	3.7	0.07	2.0
1978	4.1	1.4	2.93	3.9	0.15	3.9
1979	4.7	1.8	2.59	4.7	0.23	4.8
1980	4.2	1.8	2.29	4.3	0.37	8.6
1981	4.8	1.8	2.63	5.0	0.40	7.9
1982	5.0	1.8	2.73	5.1	0.21	4.1
1983	5.1	1.8	2.79	5.6	0.50	8.9
1984	5.5	1.8	2.96	5.9	0.55	9.3
1985	5.3	1.9	2.86	5.9	0.58	9.8
1986	5.9	1.8	3.25	6.0	0.32	5.3
1987	5.4	1.7	3.14	5.7	0.54	9.5
1988	5.1	1.6	3.17	5.4	0.38	7.0
1989	5.1	1.5	3.36	5.6	0.52	9.3
1990	4.3	1.4	3.14	5.4	1.09	20.2
1991	3.9	1.4	2.81	4.9	1.05	21.4
1992	3.7	1.4	2.72	4.6	0.83	18.2
1993	3.4	1.4	2.50	4.0	0.56	14.1
1994	3.8	1.4	2.75	4.8	0.95	20.0
1995	3.4	1.3	2.69	3.8	0.47	12.2
1996	3.2	1.3	2.54	4.5	1.31	29.1
1997	3.1	1.3	2.42	4.4	1.28	29.3
1998	3.4	1.3	2.59	4.5	1.06	23.8
1999	3.8	1.3	2.98	4.7	0.88	18.9
2000	3.0	1.2	2.56	4.5	1.53	33.6
2001	3.5	1.2	2.87	4.8	1.30	27.3
2002	3.6	1.2	2.97	4.7	1.09	23.5
2003	3.6	1.2	3.03	4.7	1.04	22.2
2004	3.7	1.2	3.09	4.6	0.92	19.7
2005	3.9	1.2	3.22	4.4	0.54	12.2
2006	3.9	1.2	3.15	4.9	1.04	21.1
2007	3.4	1.2	2.74	4.0	0.58	14.7
2008	3.6	1.2	2.92	4.3	0.66	15.4
2009	3.5	1.2	2.78	4.0	0.55	13.8
2010	3.6	1.2	2.96	4.2	0.60	14.2

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at www.fas.usda.gov/psdonline, updated 9 November 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

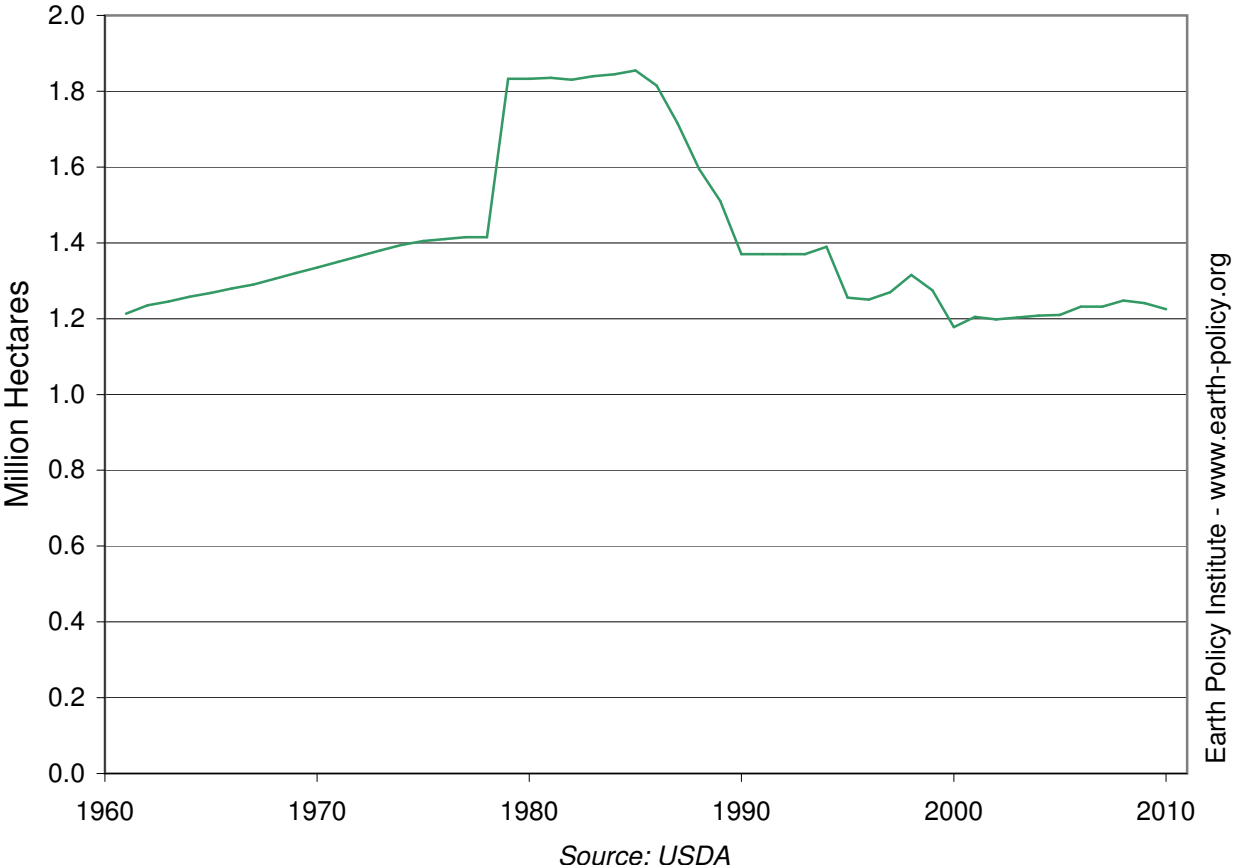
Grain Production in North Korea, 1961-2010



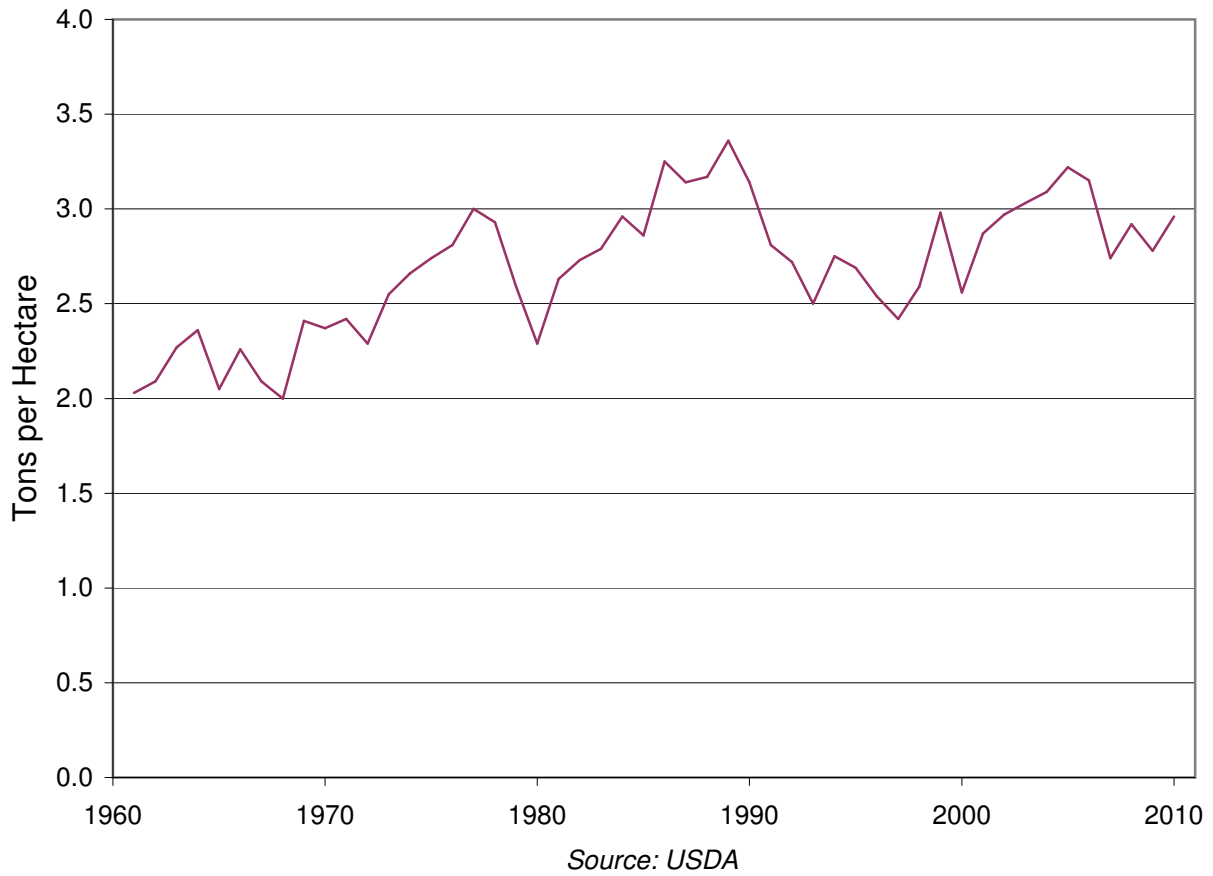
Source: USDA

Earth Policy Institute - www.earth-policy.org

Grain Area Harvested in North Korea, 1961-2010



Grain Yield in North Korea, 1961-2010



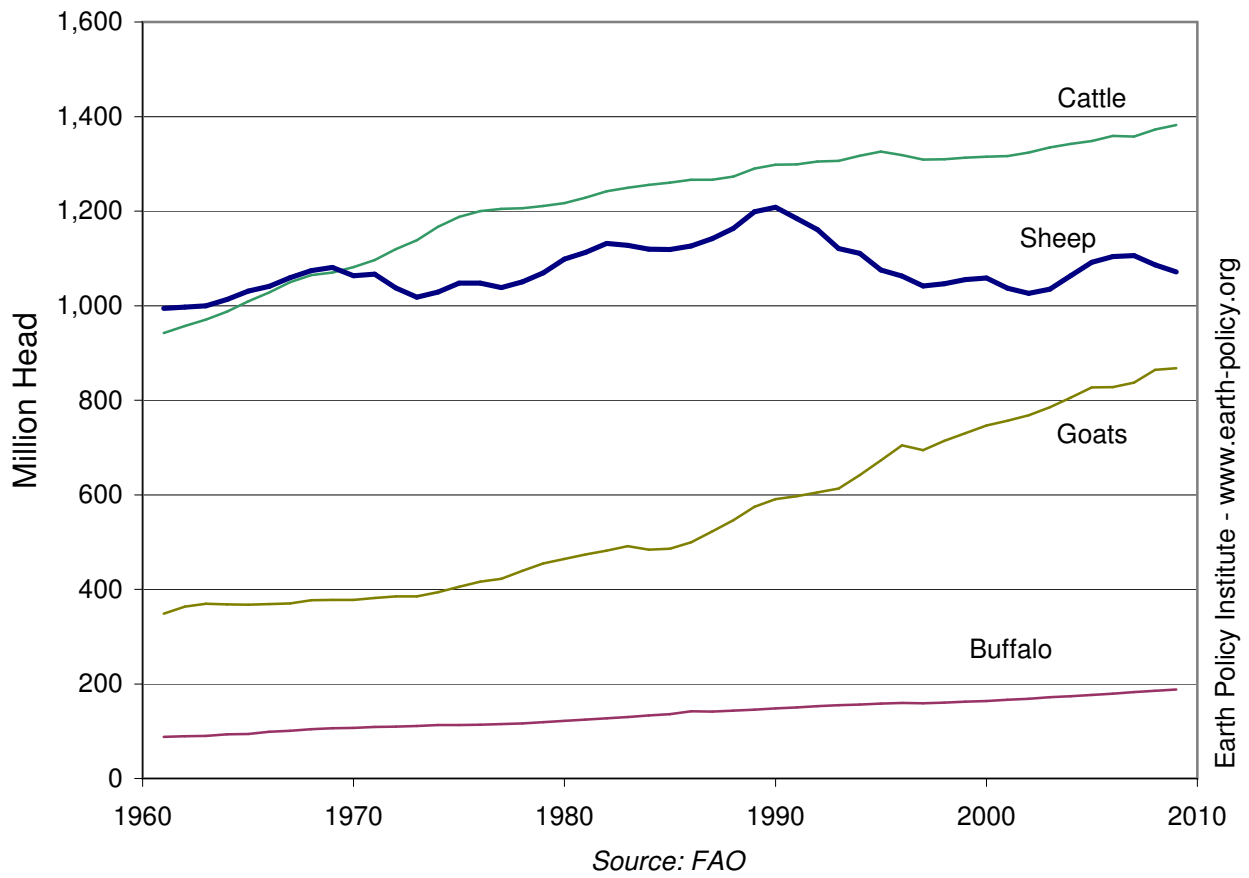
World Grazing Livestock by Type, 1961-2009

Year	Buffalo	Cattle	Goats	Sheep	Total
Million Head					
1961	88	942	349	994	2,373
1962	89	957	364	997	2,407
1963	90	970	370	1,000	2,430
1964	93	988	368	1,013	2,463
1965	94	1,009	367	1,031	2,502
1966	99	1,028	369	1,041	2,536
1967	101	1,050	371	1,059	2,581
1968	104	1,065	377	1,074	2,620
1969	106	1,070	378	1,081	2,635
1970	107	1,082	378	1,063	2,630
1971	109	1,097	382	1,066	2,653
1972	110	1,119	385	1,038	2,652
1973	111	1,139	385	1,018	2,653
1974	113	1,167	394	1,029	2,703
1975	113	1,188	405	1,048	2,754
1976	114	1,200	416	1,048	2,778
1977	115	1,205	422	1,038	2,780
1978	117	1,206	439	1,051	2,812
1979	119	1,211	455	1,069	2,854
1980	121	1,217	464	1,099	2,902
1981	124	1,229	474	1,113	2,940
1982	128	1,242	482	1,132	2,983
1983	130	1,249	491	1,127	2,998
1984	133	1,255	484	1,119	2,992
1985	136	1,260	486	1,119	3,001
1986	142	1,267	500	1,127	3,035
1987	142	1,267	522	1,142	3,073
1988	144	1,273	546	1,164	3,126
1989	146	1,290	574	1,198	3,208
1990	148	1,298	591	1,208	3,246
1991	150	1,298	597	1,184	3,230
1992	153	1,305	605	1,161	3,224
1993	155	1,306	613	1,121	3,194
1994	157	1,317	642	1,111	3,226
1995	159	1,326	673	1,076	3,233
1996	160	1,319	704	1,063	3,245
1997	159	1,309	694	1,041	3,204
1998	161	1,310	714	1,046	3,230
1999	162	1,313	730	1,055	3,260
2000	164	1,315	747	1,059	3,285
2001	166	1,316	757	1,037	3,277
2002	169	1,324	768	1,026	3,287
2003	172	1,335	785	1,035	3,326
2004	174	1,342	806	1,063	3,385
2005	176	1,348	827	1,091	3,443
2006	180	1,359	828	1,104	3,471
2007	183	1,358	837	1,106	3,483
2008	185	1,372	864	1,086	3,508
2009	188	1,382	868	1,071	3,510

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

World Grazing Livestock by Type, 1961-2009



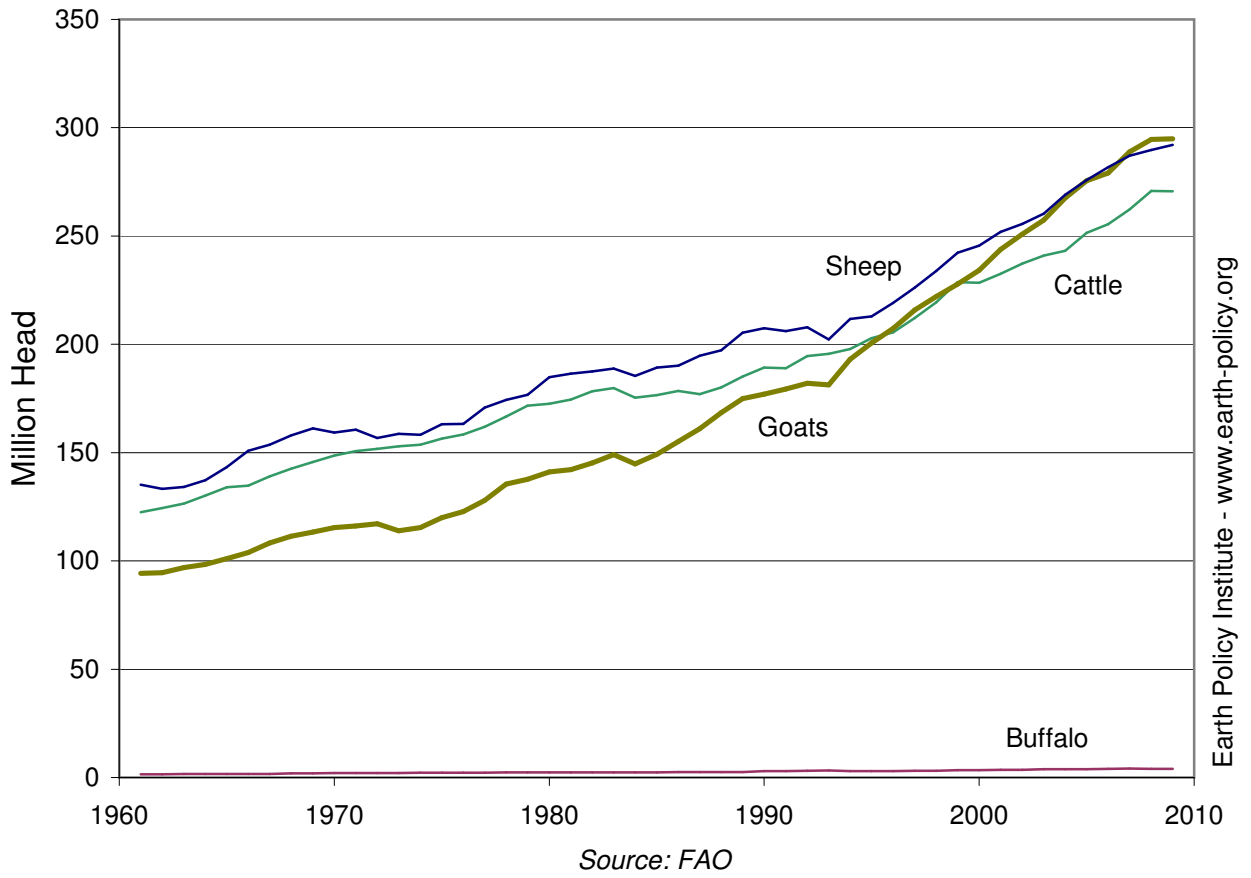
Grazing Livestock in Africa, 1961-2009

Year	Buffalo	Cattle	Goats	Sheep	Total
	Million Head				
1961	1.5	122.5	94.3	135.1	353.4
1962	1.5	124.5	94.5	133.2	353.7
1963	1.6	126.5	96.9	134.2	359.1
1964	1.6	130.2	98.4	137.3	367.5
1965	1.6	134.0	101.0	143.3	380.0
1966	1.6	134.8	103.9	150.8	391.2
1967	1.7	139.0	108.3	153.7	402.6
1968	1.9	142.6	111.3	158.0	413.8
1969	2.0	145.6	113.3	161.2	422.1
1970	2.0	148.6	115.4	159.3	425.3
1971	2.1	150.7	116.1	160.6	429.6
1972	2.1	151.8	117.1	156.8	427.8
1973	2.1	152.9	113.9	158.7	427.6
1974	2.2	153.7	115.5	158.2	429.6
1975	2.2	156.5	120.0	163.1	441.8
1976	2.2	158.3	122.8	163.3	446.7
1977	2.3	161.9	127.9	170.7	462.8
1978	2.3	166.6	135.4	174.4	478.8
1979	2.3	171.6	137.6	176.6	488.2
1980	2.3	172.5	141.1	184.8	500.7
1981	2.4	174.4	142.2	186.4	505.4
1982	2.4	178.3	145.2	187.4	513.4
1983	2.3	179.8	149.0	188.8	520.0
1984	2.4	175.3	144.8	185.4	508.0
1985	2.4	176.5	149.2	189.2	517.3
1986	2.4	178.5	155.1	190.1	526.2
1987	2.5	177.0	161.0	194.8	535.2
1988	2.5	180.1	168.5	197.3	548.3
1989	2.5	185.1	175.0	205.3	567.9
1990	2.9	189.2	177.0	207.5	576.6
1991	3.0	188.9	179.4	206.1	577.4
1992	3.2	194.5	182.0	207.9	587.6
1993	3.3	195.6	181.3	202.2	582.4
1994	2.9	197.8	193.1	211.7	605.5
1995	3.0	202.9	200.6	212.8	619.3
1996	2.9	205.6	207.3	219.1	634.8
1997	3.1	212.2	215.9	226.2	657.4
1998	3.1	219.4	222.0	233.9	678.4
1999	3.3	228.6	227.8	242.2	702.0
2000	3.4	228.4	234.2	245.5	711.5
2001	3.5	232.6	243.7	251.9	731.7
2002	3.6	237.2	250.8	255.6	747.2
2003	3.8	240.9	257.4	260.4	762.5
2004	3.8	243.1	267.6	269.0	783.6
2005	3.9	251.4	275.5	275.9	806.7
2006	3.9	255.5	279.1	281.8	820.2
2007	4.1	262.2	288.9	287.1	842.3
2008	4.1	270.8	294.5	289.7	859.0
2009*	4.0	270.7	294.9	292.1	861.7

* Note: Figures for 2009 are FAO estimates.

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

Grazing Livestock in Africa, 1961-2009



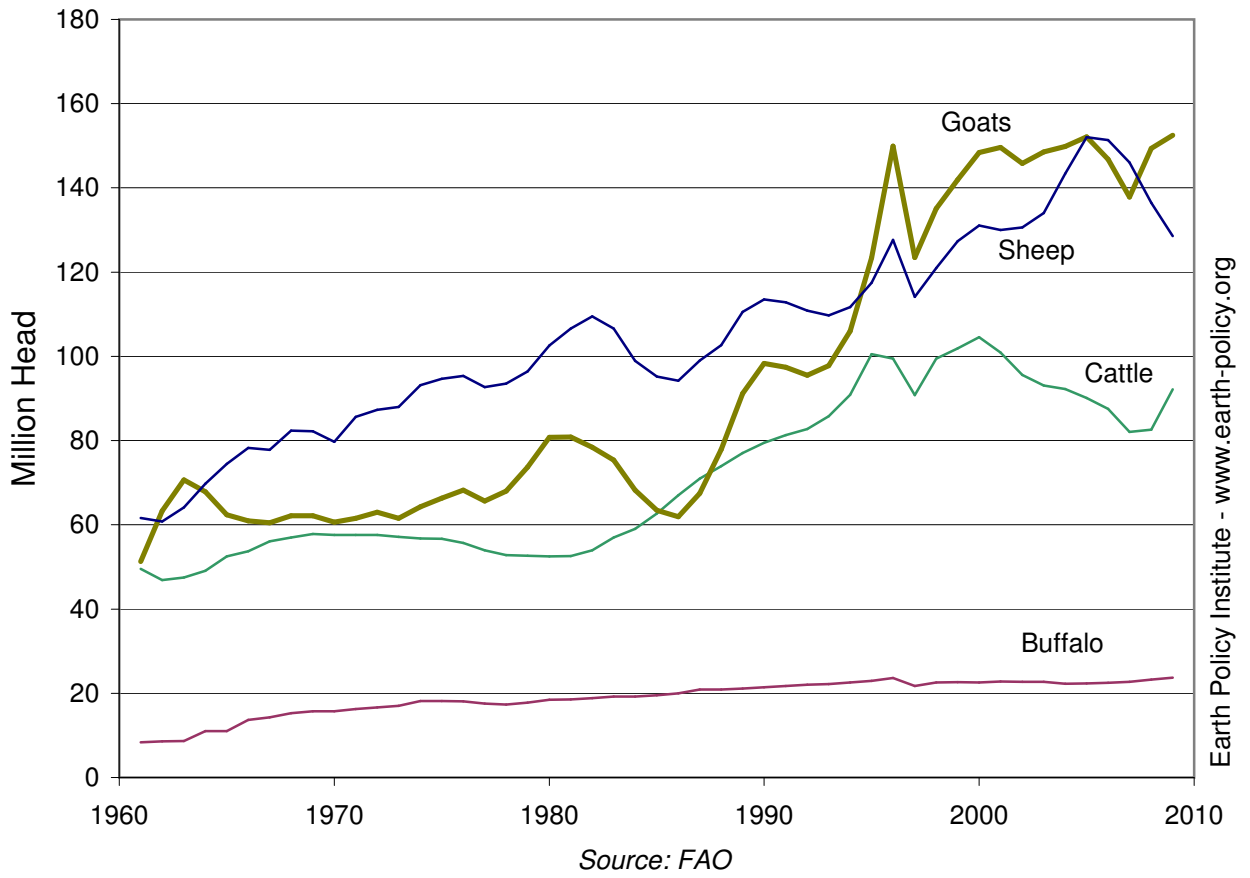
Grazing Livestock in China, 1961-2009

Year	Buffalo	Cattle	Goats	Sheep	Total
	Million Head				
1961	8.4	49.5	51.3	61.6	170.8
1962	8.6	46.9	63.3	60.8	179.4
1963	8.7	47.5	70.7	64.1	190.9
1964	11.0	49.1	67.9	69.7	197.7
1965	11.0	52.5	62.4	74.5	200.4
1966	13.7	53.7	60.9	78.3	206.5
1967	14.3	56.1	60.5	77.8	208.6
1968	15.2	57.0	62.2	82.3	216.7
1969	15.7	57.8	62.2	82.2	217.9
1970	15.7	57.6	60.7	79.7	213.7
1971	16.3	57.6	61.6	85.6	221.1
1972	16.7	57.6	63.0	87.3	224.5
1973	17.0	57.1	61.5	88.0	223.6
1974	18.1	56.8	64.3	93.2	232.4
1975	18.1	56.7	66.4	94.7	235.9
1976	18.1	55.7	68.2	95.3	237.4
1977	17.6	54.0	65.7	92.7	229.9
1978	17.3	52.8	68.0	93.5	231.7
1979	17.8	52.6	73.7	96.4	240.6
1980	18.4	52.5	80.8	102.6	254.3
1981	18.6	52.6	80.9	106.6	258.7
1982	18.8	53.9	78.4	109.5	260.6
1983	19.2	57.0	75.4	106.6	258.2
1984	19.2	59.0	68.2	98.9	245.4
1985	19.5	62.7	63.4	95.2	240.9
1986	20.0	67.0	61.9	94.2	243.1
1987	20.9	71.0	67.5	99.0	258.3
1988	20.9	74.0	77.9	102.7	275.4
1989	21.1	77.0	91.2	110.6	299.9
1990	21.4	79.5	98.3	113.5	312.7
1991	21.7	81.3	97.4	112.8	313.2
1992	22.0	82.7	95.5	110.9	311.1
1993	22.2	85.8	97.8	109.7	315.5
1994	22.6	90.9	106.0	111.7	331.1
1995	22.9	100.6	123.4	117.4	364.3
1996	23.6	99.5	149.9	127.6	400.6
1997	21.7	90.8	123.5	114.1	350.2
1998	22.6	99.4	135.1	121.0	378.1
1999	22.7	101.9	141.9	127.4	393.9
2000	22.6	104.6	148.4	131.1	406.6
2001	22.8	100.9	149.6	130.0	403.4
2002	22.7	95.6	145.8	130.6	394.7
2003	22.7	93.1	148.6	134.0	398.4
2004	22.3	92.2	149.8	143.4	407.7
2005	22.4	90.1	152.1	152.0	416.7
2006	22.5	87.5	146.8	151.3	408.2
2007	22.7	82.1	137.9	146.0	388.7
2008	23.3	82.6	149.4	136.4	391.7
2009	23.7	92.1	152.5	128.6	396.9

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

Grazing Livestock in China, 1961-2009



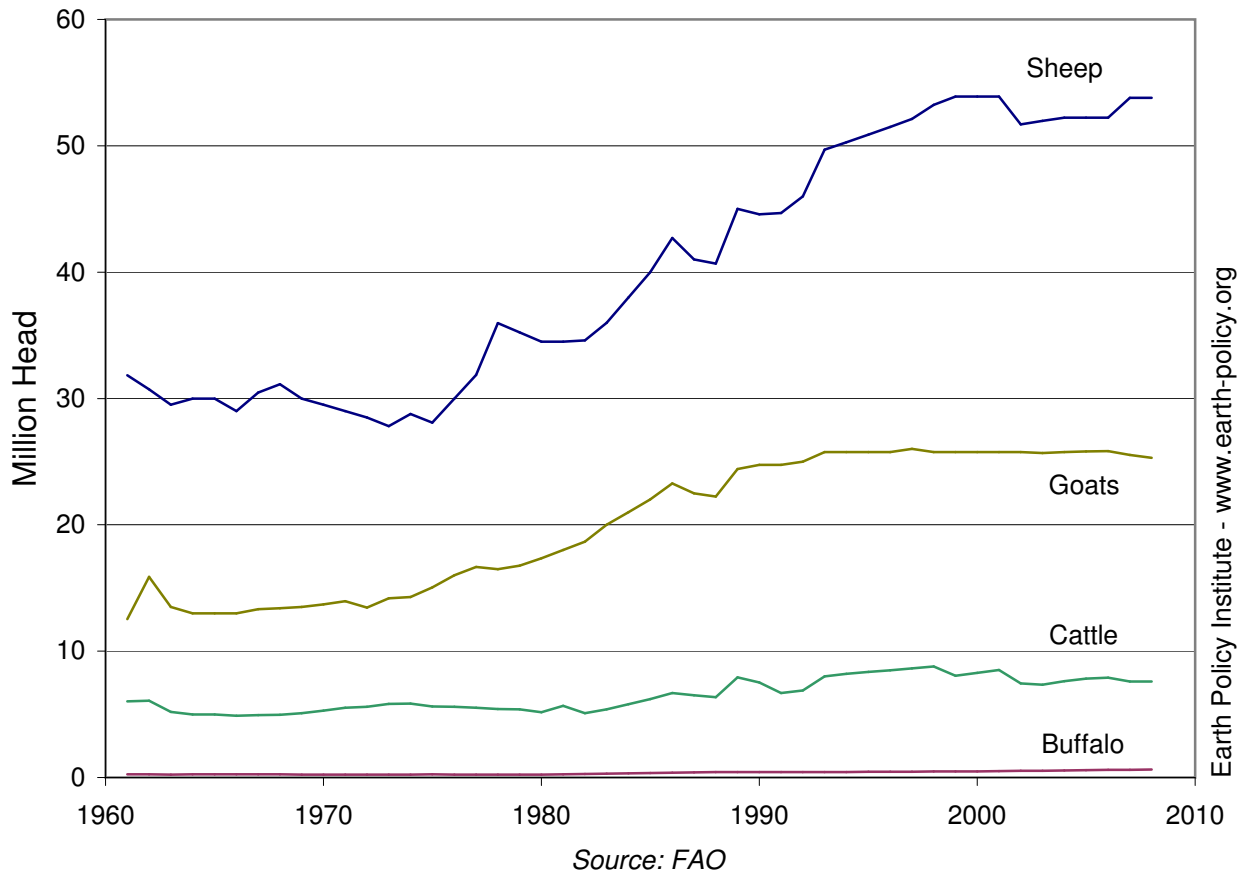
Grazing Livestock in Iran, 1961-2008

Year	Buffalo	Cattle	Goats	Sheep	Total
	Million Head				
1961	0.2	6.0	12.5	31.8	50.6
1962	0.3	6.1	15.9	30.7	52.9
1963	0.2	5.2	13.5	29.5	48.4
1964	0.3	5.0	13.0	30.0	48.3
1965	0.3	5.0	13.0	30.0	48.3
1966	0.3	4.9	13.0	29.0	47.1
1967	0.3	4.9	13.3	30.5	49.0
1968	0.3	5.0	13.4	31.1	49.7
1969	0.2	5.1	13.5	30.0	48.8
1970	0.2	5.3	13.7	29.5	48.7
1971	0.2	5.5	14.0	29.0	48.7
1972	0.2	5.6	13.5	28.5	47.8
1973	0.2	5.8	14.2	27.8	48.1
1974	0.2	5.9	14.3	28.8	49.2
1975	0.2	5.6	15.1	28.1	49.0
1976	0.2	5.6	16.0	30.0	51.8
1977	0.2	5.5	16.7	31.9	54.3
1978	0.2	5.4	16.5	36.0	58.1
1979	0.2	5.4	16.8	35.2	57.6
1980	0.2	5.2	17.4	34.5	57.3
1981	0.3	5.7	18.0	34.5	58.4
1982	0.3	5.1	18.7	34.6	58.7
1983	0.3	5.4	20.0	36.0	61.7
1984	0.3	5.8	21.0	38.0	65.1
1985	0.4	6.2	22.0	40.0	68.6
1986	0.4	6.7	23.3	42.7	73.0
1987	0.4	6.5	22.5	41.0	70.4
1988	0.4	6.4	22.2	40.7	69.7
1989	0.4	7.9	24.4	45.0	77.8
1990	0.4	7.5	24.7	44.6	77.3
1991	0.4	6.7	24.7	44.7	76.6
1992	0.4	6.9	25.0	46.0	78.3
1993	0.4	8.0	25.8	49.7	83.9
1994	0.4	8.2	25.8	50.3	84.7
1995	0.4	8.3	25.8	50.9	85.4
1996	0.5	8.5	25.8	51.5	86.2
1997	0.5	8.6	26.0	52.1	87.2
1998	0.5	8.8	25.8	53.2	88.3
1999	0.5	8.0	25.8	53.9	88.2
2000	0.5	8.3	25.8	53.9	88.4
2001	0.5	8.5	25.8	53.9	88.7
2002	0.5	7.4	25.8	51.7	85.4
2003	0.5	7.3	25.7	52.0	85.5
2004	0.6	7.6	25.8	52.2	86.2
2005	0.6	7.8	25.8	52.2	86.4
2006	0.6	7.9	25.8	52.2	86.5
2007	0.6	7.6	25.5	53.8	87.6
2008	0.6	7.6	25.3	53.8	87.3

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

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Grazing Livestock in Iran, 1961-2008

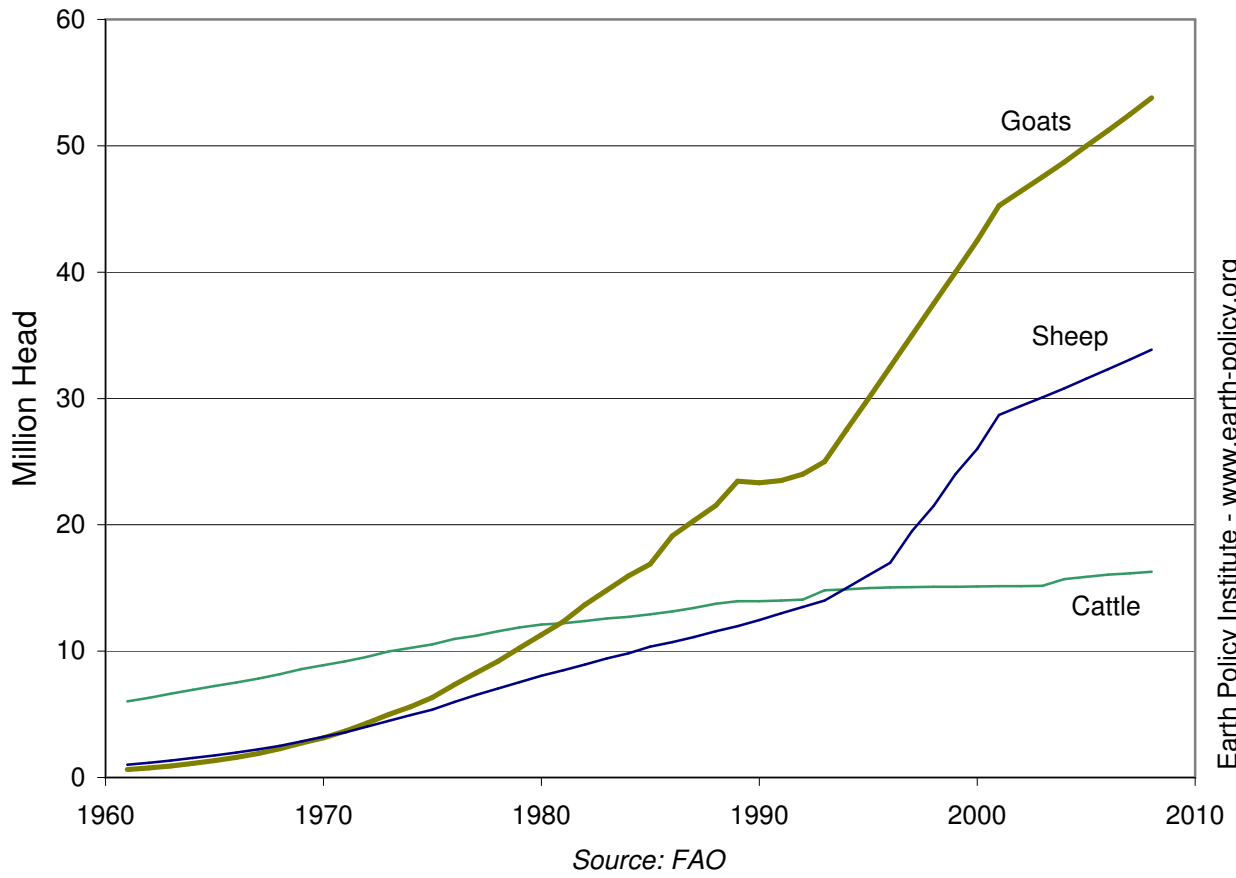


Grazing Livestock in Nigeria, 1961-2008

Year	Cattle	Goats	Sheep	Total
	Million Head			
1961	6.0	0.6	1.0	7.7
1962	6.3	0.8	1.2	8.2
1963	6.6	0.9	1.3	8.9
1964	6.9	1.1	1.5	9.6
1965	7.2	1.3	1.8	10.3
1966	7.5	1.6	2.0	11.1
1967	7.8	1.9	2.2	12.0
1968	8.2	2.3	2.5	13.0
1969	8.6	2.7	2.9	14.2
1970	8.9	3.2	3.2	15.3
1971	9.2	3.7	3.6	16.5
1972	9.6	4.3	4.0	17.9
1973	10.0	5.0	4.5	19.4
1974	10.3	5.6	4.9	20.8
1975	10.5	6.3	5.4	22.3
1976	11.0	7.3	6.0	24.3
1977	11.2	8.3	6.5	26.0
1978	11.6	9.2	7.0	27.8
1979	11.9	10.3	7.5	29.7
1980	12.1	11.3	8.1	31.5
1981	12.2	12.3	8.5	33.0
1982	12.4	13.7	8.9	35.0
1983	12.6	14.8	9.4	36.8
1984	12.7	16.0	9.8	38.5
1985	12.9	16.9	10.4	40.2
1986	13.2	19.1	10.7	43.0
1987	13.4	20.3	11.1	44.9
1988	13.8	21.5	11.6	46.9
1989	14.0	23.5	12.0	49.4
1990	13.9	23.3	12.5	49.7
1991	14.0	23.5	13.0	50.5
1992	14.1	24.0	13.5	51.6
1993	14.8	25.0	14.0	53.8
1994	14.9	27.5	15.0	57.4
1995	15.0	30.0	16.0	61.0
1996	15.1	32.5	17.0	64.6
1997	15.1	35.0	19.5	69.6
1998	15.1	37.5	21.5	74.1
1999	15.1	40.0	24.0	79.1
2000	15.1	42.5	26.0	83.6
2001	15.1	45.3	28.7	89.1
2002	15.1	46.4	29.4	90.9
2003	15.2	47.6	30.1	92.8
2004	15.7	48.7	30.8	95.2
2005	15.9	50.0	31.5	97.4
2006	16.1	51.2	32.3	99.6
2007	16.2	52.5	33.1	101.7
2008	16.3	53.8	33.9	104.0

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

Grazing Livestock in Nigeria, 1961-2008



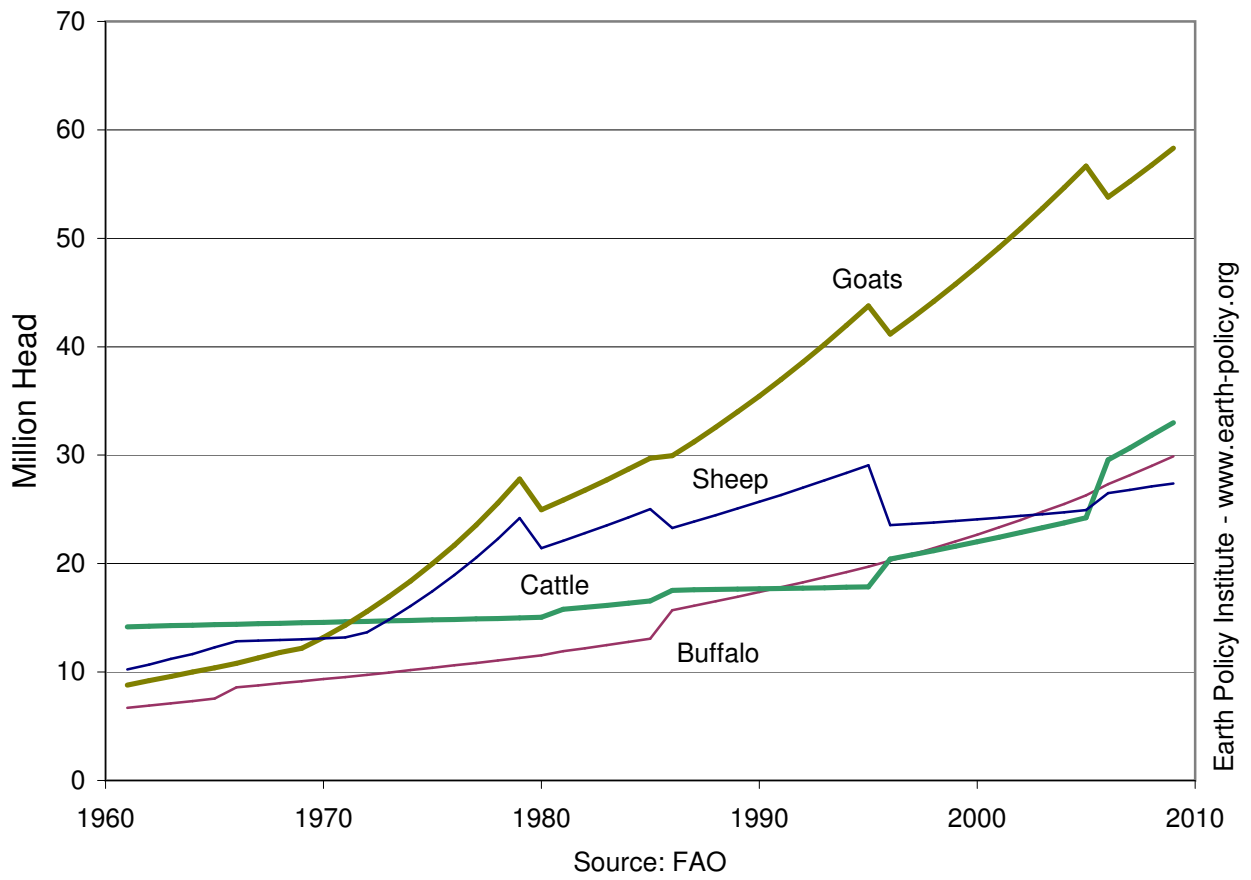
Grazing Livestock in Pakistan, 1961-2009

Year	Buffalo	Cattle	Goats	Sheep	Total
	Million Head				
1961	6.7	14.2	8.8	10.2	39.9
1962	6.9	14.2	9.2	10.7	41.0
1963	7.1	14.3	9.6	11.2	42.2
1964	7.3	14.3	10.0	11.7	43.3
1965	7.6	14.4	10.4	12.3	44.6
1966	8.6	14.4	10.8	12.9	46.6
1967	8.8	14.4	11.3	12.9	47.4
1968	9.0	14.5	11.8	13.0	48.2
1969	9.2	14.5	12.2	13.0	48.9
1970	9.3	14.6	13.2	13.1	50.2
1971	9.5	14.6	14.3	13.2	51.7
1972	9.8	14.7	15.6	13.7	53.7
1973	10.0	14.7	16.9	14.8	56.4
1974	10.2	14.8	18.4	16.1	59.4
1975	10.4	14.8	20.0	17.5	62.6
1976	10.6	14.9	21.7	18.9	66.1
1977	10.8	14.9	23.6	20.5	69.8
1978	11.1	14.9	25.6	22.3	73.9
1979	11.3	15.0	27.8	24.2	78.3
1980	11.5	15.0	25.0	21.4	73.0
1981	11.9	15.8	25.8	22.1	75.6
1982	12.2	16.0	26.8	22.8	77.7
1983	12.5	16.2	27.7	23.5	79.9
1984	12.8	16.4	28.7	24.3	82.1
1985	13.1	16.5	29.7	25.0	84.4
1986	15.7	17.5	29.9	23.3	86.5
1987	16.1	17.6	31.2	23.9	88.8
1988	16.5	17.6	32.6	24.5	91.2
1989	16.9	17.6	34.0	25.1	93.6
1990	17.4	17.7	35.4	25.7	96.2
1991	17.8	17.7	37.0	26.3	98.8
1992	18.3	17.7	38.6	27.0	101.6
1993	18.7	17.8	40.2	27.7	104.4
1994	19.2	17.8	42.0	28.4	107.3
1995	19.7	17.8	43.8	29.1	110.4
1996	20.3	20.4	41.2	23.5	105.4
1997	20.8	20.8	42.7	23.7	108.0
1998	21.4	21.2	44.2	23.8	110.6
1999	22.0	21.6	45.8	23.9	113.3
2000	22.7	22.0	47.4	24.1	116.2
2001	23.3	22.4	49.1	24.2	119.1
2002	24.0	22.9	50.9	24.4	122.2
2003	24.8	23.3	52.8	24.6	125.4
2004	25.5	23.8	54.7	24.7	128.7
2005	26.3	24.2	56.7	24.9	132.1
2006	27.3	29.6	53.8	26.5	137.2
2007	28.2	30.7	55.2	26.8	140.9
2008	29.0	31.8	56.7	27.1	144.7
2009	29.9	33.0	58.3	27.4	148.6

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

Grazing Livestock in Pakistan, 1961-2009



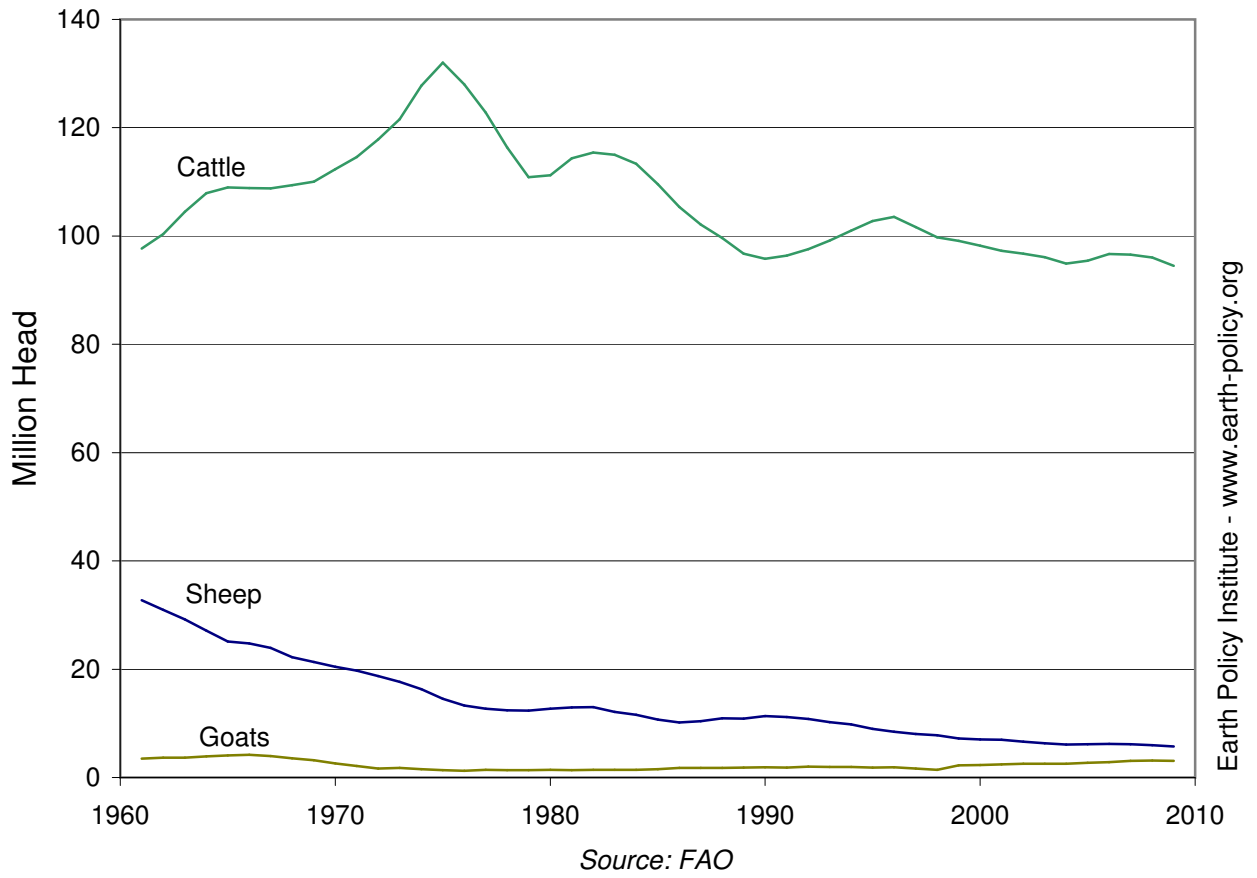
Grazing Livestock in the United States, 1961-2009

Year	Cattle	Goats	Sheep	Total
	Million Head			
1961	97.7	3.5	32.7	133.9
1962	100.4	3.6	31.0	135.0
1963	104.5	3.7	29.2	137.3
1964	107.9	3.9	27.1	138.9
1965	109.0	4.1	25.1	138.2
1966	108.9	4.2	24.7	137.8
1967	108.8	4.0	24.0	136.7
1968	109.4	3.6	22.2	135.2
1969	110.0	3.2	21.4	134.6
1970	112.4	2.6	20.4	135.4
1971	114.6	2.1	19.7	136.4
1972	117.9	1.7	18.7	138.3
1973	121.5	1.8	17.6	141.0
1974	127.8	1.6	16.3	145.7
1975	132.0	1.4	14.5	147.9
1976	128.0	1.3	13.3	142.6
1977	122.8	1.4	12.7	136.9
1978	116.4	1.4	12.4	130.2
1979	110.9	1.4	12.4	124.6
1980	111.2	1.4	12.7	125.3
1981	114.4	1.4	12.9	128.7
1982	115.4	1.4	13.0	129.9
1983	115.0	1.4	12.1	128.6
1984	113.4	1.4	11.6	126.3
1985	109.6	1.6	10.7	121.8
1986	105.4	1.8	10.1	117.3
1987	102.1	1.8	10.4	114.3
1988	99.6	1.8	10.9	112.4
1989	96.7	1.9	10.9	109.4
1990	95.8	1.9	11.4	109.1
1991	96.4	1.8	11.2	109.4
1992	97.6	2.0	10.8	110.4
1993	99.2	2.0	10.2	111.3
1994	101.0	2.0	9.8	112.8
1995	102.8	1.9	9.0	113.6
1996	103.5	1.9	8.5	113.9
1997	101.7	1.7	8.0	111.3
1998	99.7	1.4	7.8	109.0
1999	99.1	2.3	7.2	108.6
2000	98.2	2.3	7.0	107.5
2001	97.3	2.4	7.0	106.6
2002	96.7	2.5	6.6	105.9
2003	96.1	2.5	6.3	105.0
2004	94.9	2.5	6.1	103.5
2005	95.4	2.7	6.1	104.3
2006	96.7	2.8	6.2	105.8
2007	96.6	3.0	6.1	105.7
2008	96.0	3.1	6.0	105.1
2009	94.5	3.1	5.7	103.3

Source: U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at www.earth-policy.org.

Grazing Livestock in the United States, 1961-2009

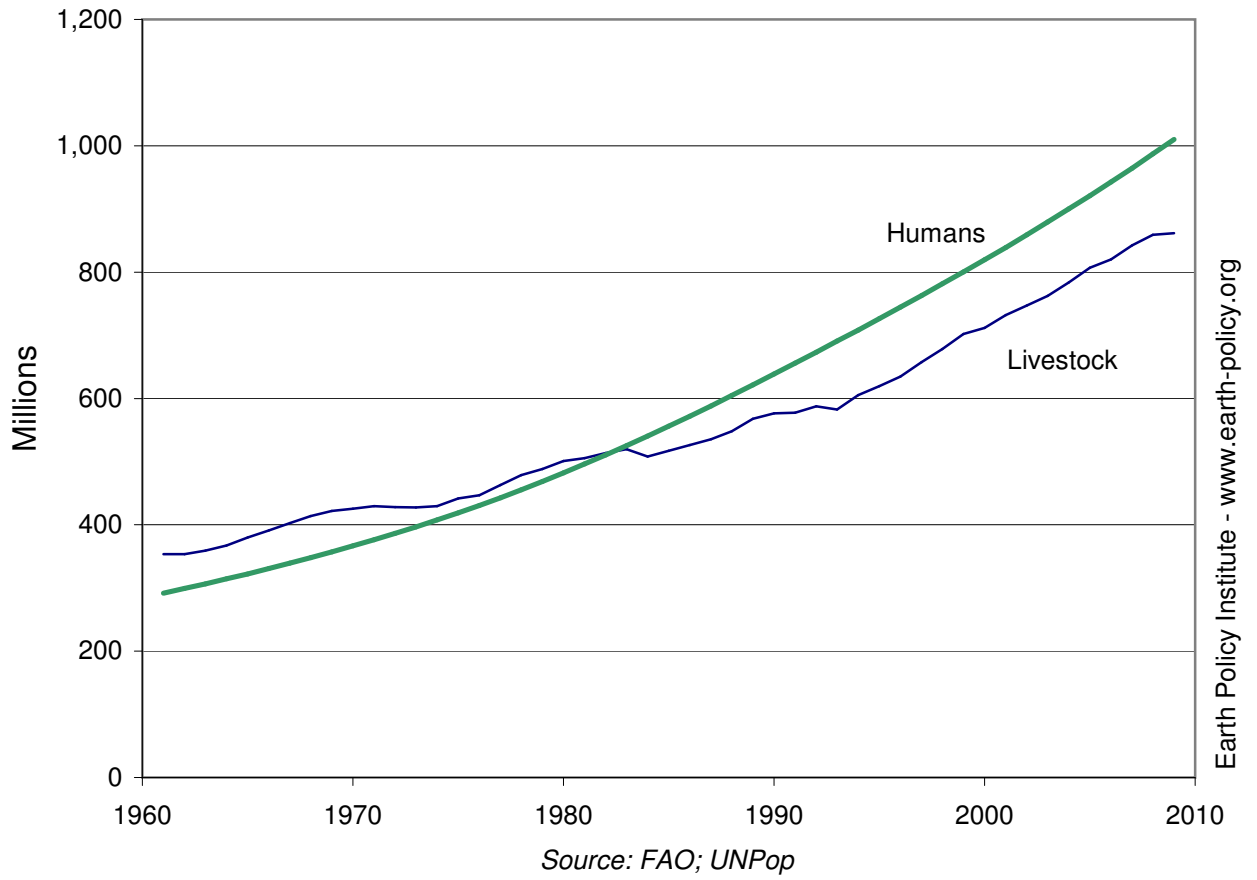


Livestock and Human Populations in Africa, 1961-2008

Year	Livestock Population Millions	Human Population
1961	353.4	292.0
1962	353.7	299.2
1963	359.1	306.6
1964	367.5	314.3
1965	380.0	322.3
1966	391.2	330.6
1967	402.6	339.2
1968	413.8	348.2
1969	422.1	357.3
1970	425.3	366.8
1971	429.6	376.5
1972	427.8	386.5
1973	427.6	396.8
1974	429.6	407.5
1975	441.8	418.8
1976	446.7	430.5
1977	462.8	442.8
1978	478.8	455.5
1979	488.2	468.7
1980	500.7	482.2
1981	505.4	496.2
1982	513.4	510.6
1983	520.0	525.4
1984	508.0	540.6
1985	517.3	556.1
1986	526.2	572.1
1987	535.2	588.3
1988	548.3	604.9
1989	567.9	621.7
1990	576.6	638.7
1991	577.4	655.9
1992	587.6	673.2
1993	582.4	690.7
1994	605.5	708.4
1995	619.3	726.3
1996	634.8	744.4
1997	657.4	762.7
1998	678.4	781.3
1999	702.0	800.2
2000	711.5	819.5
2001	731.7	839.0
2002	747.2	858.9
2003	762.5	879.2
2004	783.6	899.9
2005	806.7	921.1
2006	820.2	942.7
2007	842.3	964.7
2008	859.0	987.1
2009	861.7	1,009.9

Source: Compiled by Earth Policy Institute with livestock population from U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010; human population from U.N. Population Division, *World Population Prospects: The 2008 Revision Population Database*, at esa.un.org/unpp, updated 11 March 2009.

Livestock and Human Populations in Africa, 1961-2008



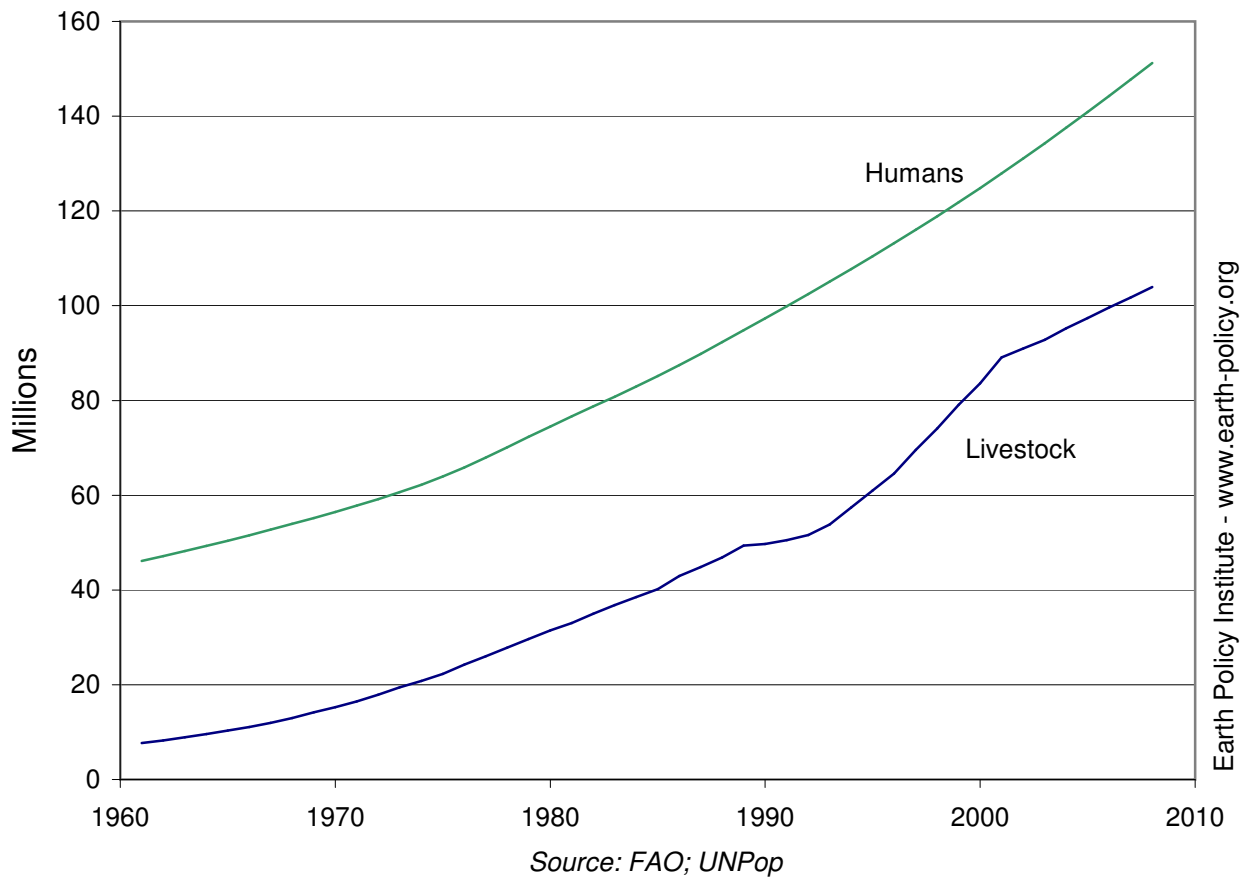
Livestock and Human Populations in Nigeria, 1961-2008

Year	Livestock Population Millions	Human Population
1961	7.7	46.1
1962	8.2	47.2
1963	8.9	48.2
1964	9.6	49.3
1965	10.3	50.4
1966	11.1	51.6
1967	12.0	52.7
1968	13.0	53.9
1969	14.2	55.2
1970	15.3	56.5
1971	16.5	57.8
1972	17.9	59.2
1973	19.4	60.6
1974	20.8	62.2
1975	22.3	63.9
1976	24.3	65.9
1977	26.0	68.0
1978	27.8	70.1
1979	29.7	72.3
1980	31.5	74.5
1981	33.0	76.6
1982	35.0	78.7
1983	36.8	80.8
1984	38.5	82.9
1985	40.2	85.2
1986	43.0	87.5
1987	44.9	89.9
1988	46.9	92.3
1989	49.4	94.8
1990	49.7	97.3
1991	50.5	99.9
1992	51.6	102.5
1993	53.8	105.1
1994	57.4	107.7
1995	61.0	110.4
1996	64.6	113.2
1997	69.6	116.0
1998	74.1	118.9
1999	79.1	121.8
2000	83.6	124.8
2001	89.1	127.9
2002	90.9	131.1
2003	92.8	134.3
2004	95.2	137.5
2005	97.4	140.9
2006	99.6	144.3
2007	101.7	147.7
2008	104.0	151.2

Source: Compiled by Earth Policy Institute with livestock population from U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010; human population from U.N. Population Division, *World Population Prospects: The 2008 Revision Population Database*, at esa.un.org/unpp, updated 11 March 2009.

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Livestock and Human Populations in Nigeria, 1961-2008



Livestock and Human Populations in Pakistan, 1961-2008

Year	Livestock Population Millions	Human Population
1961	39.9	49.8
1962	41.0	50.8
1963	42.2	51.9
1964	43.3	53.0
1965	44.6	54.3
1966	46.6	55.6
1967	47.4	57.0
1968	48.2	58.5
1969	48.9	60.1
1970	50.2	61.8
1971	51.7	63.5
1972	53.7	65.3
1973	56.4	67.2
1974	59.4	69.2
1975	62.6	71.2
1976	66.1	73.3
1977	69.8	75.4
1978	73.9	77.6
1979	78.3	80.0
1980	73.0	82.6
1981	75.6	85.4
1982	77.7	88.4
1983	79.9	91.6
1984	82.1	94.9
1985	84.4	98.3
1986	86.5	101.8
1987	88.8	105.4
1988	91.2	109.0
1989	93.6	112.5
1990	96.2	115.8
1991	98.8	118.8
1992	101.6	121.7
1993	104.4	124.5
1994	107.3	127.3
1995	110.4	130.4
1996	105.4	133.7
1997	108.0	137.2
1998	110.6	140.8
1999	113.3	144.5
2000	116.2	148.1
2001	119.1	151.7
2002	122.2	155.2
2003	125.4	158.7
2004	128.7	162.2
2005	132.1	165.8
2006	137.2	169.5
2007	140.9	173.2
2008	144.7	177.0
2009	148.6	180.8

Source: Compiled by Earth Policy Institute with livestock population from U.N. Food and Agriculture Organization, *FAOSTAT*, electronic database, available at faostat.fao.org, updated 2 September 2010; human population from U.N. Population Division, *World Population Prospects: The 2008 Revision Population Database*, at esa.un.org/unpp, updated 11 March 2009.

Livestock and Human Populations in Pakistan, 1961-2008

