

WORLD POPULATION GROWTH OVER ONE HUNDRED YEARS -

A reference to keep handy, to help understand most other world events today

A. Graphs of global population growth

1. World population growth over 2000 years. (from Stanton 2003)
2. Other graphs of population growth over long periods, from Stanton & Russell.
3. The Big Four, China, India, the United States and Russia.
4. Eight European countries, showing how none are likely to be below 1950 size by 2050, barring catastrophes,
5. Large African countries.
6. Other African countries, showing troubled regions and how population growth is significant.
7. Large Middle Eastern countries.
8. The population problems of Palestine, Israel and Jordan.
9. Other large Asian countries. 10. Small Asian countries, including troubled regions.
11. Large Latin American countries. 12. Troubled smaller Latin American countries.
13. The Pacific, but including Australia, Papua Niugini and East Timor.
14. Smaller Pacific countries with problems.

B. Tables of global population growth over 100 years, plus extended data.

C. **Notes on the graphs and tables**, population densities, Charles' Darwin's theory of natural selection, Malthusian problems, and the history of Making Poverty.

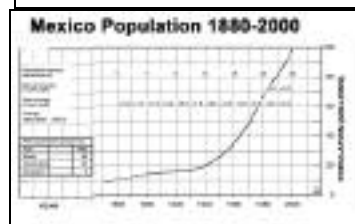
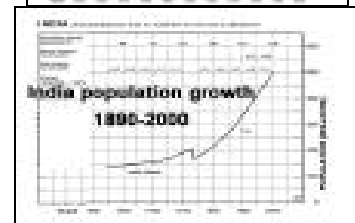
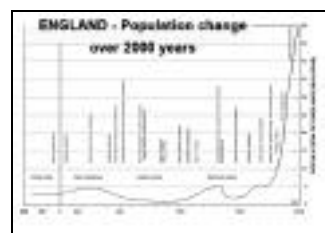
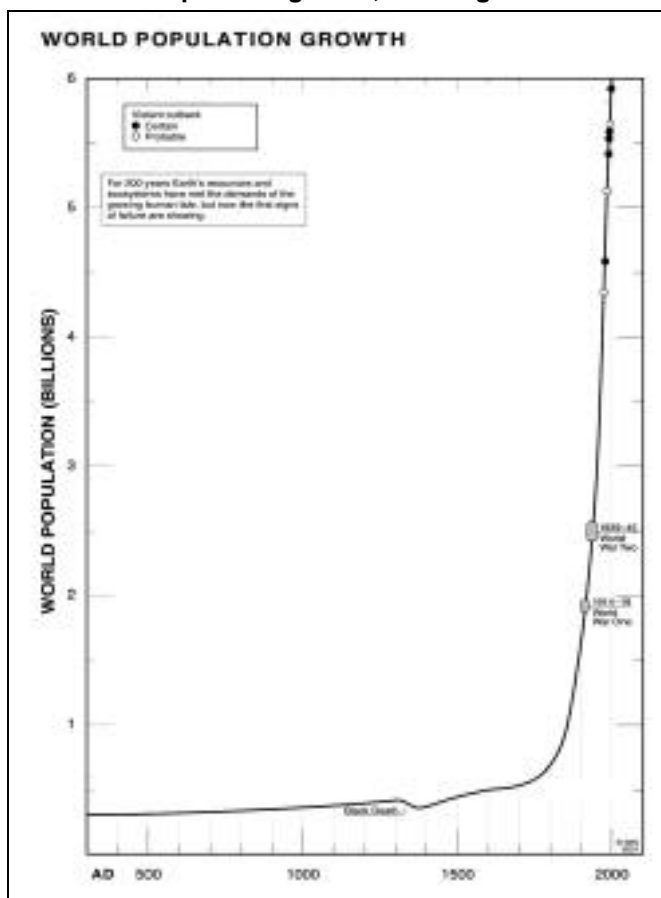
D. **What could be done.** summarised from 'Making Poverty', in part a review of William Stanton's 2003 book, *'The rapid growth of human populations 1750-2000'*.

E. **Population crashes** when they exhaust their resources. Easter Island, and Reindeer on St Matthew Island. Massive famines have had similar effects throughout world history.

A. **Graphs of population growth** are set out in population figures of millions, and in an order to try to show the problems with the greatest clarity.

Data compiled from US Census Bureau International Data Base as at April 2005, and Stanton, 2003

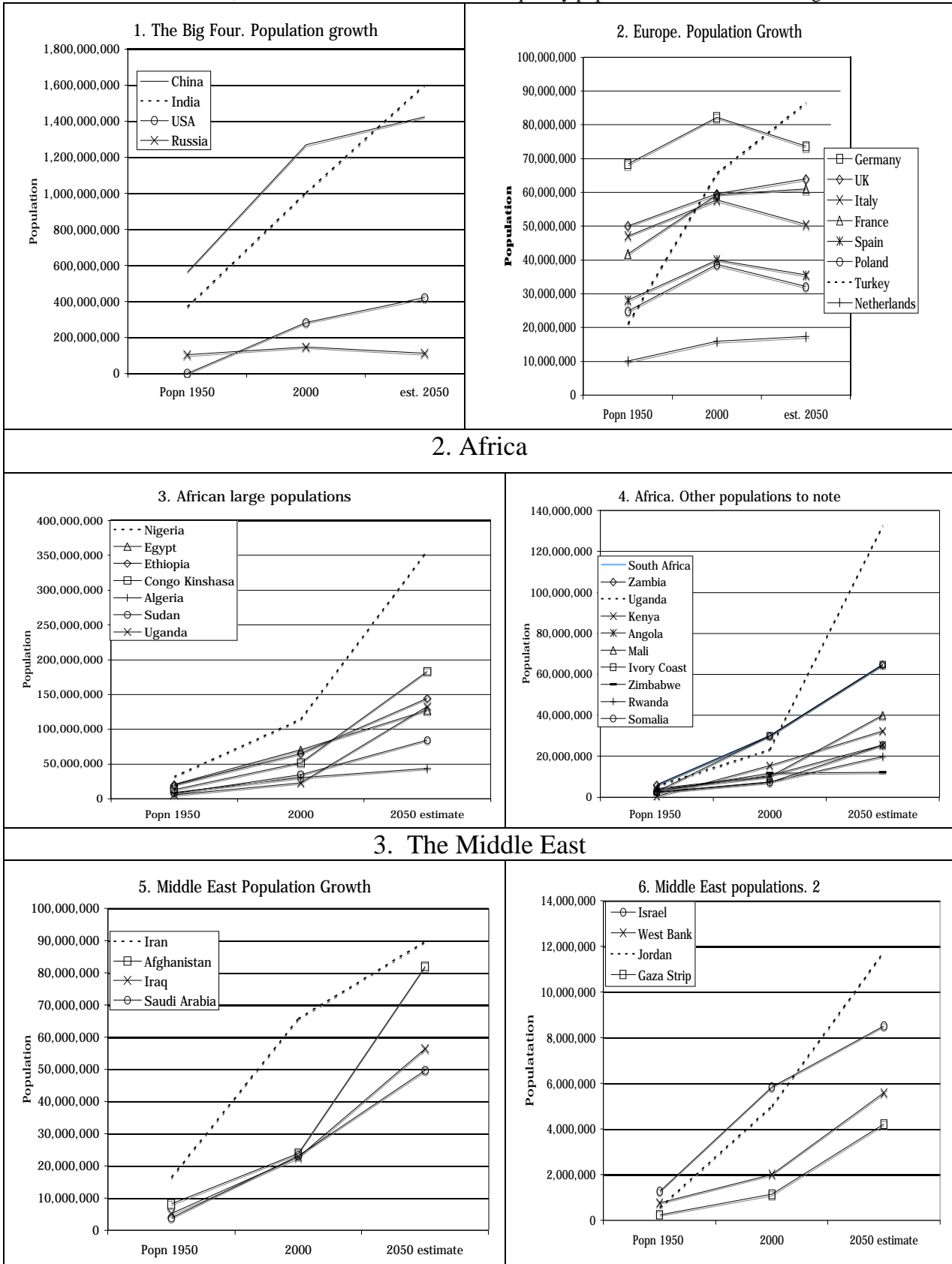
A. Population growth, showing the escalation since the Industrial Revolution



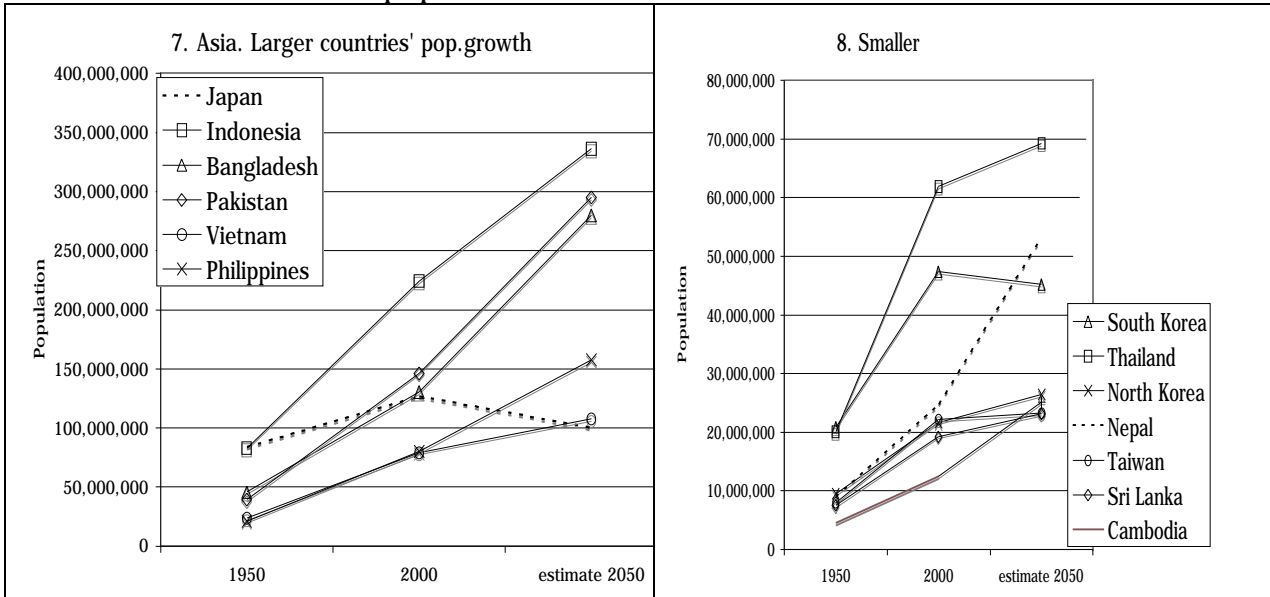
EXAMPLES OF WORLD POPULATION GROWTH IN 100 YEARS

How it will rise from 6 billion now to 9 billion in 2050 unless . . .

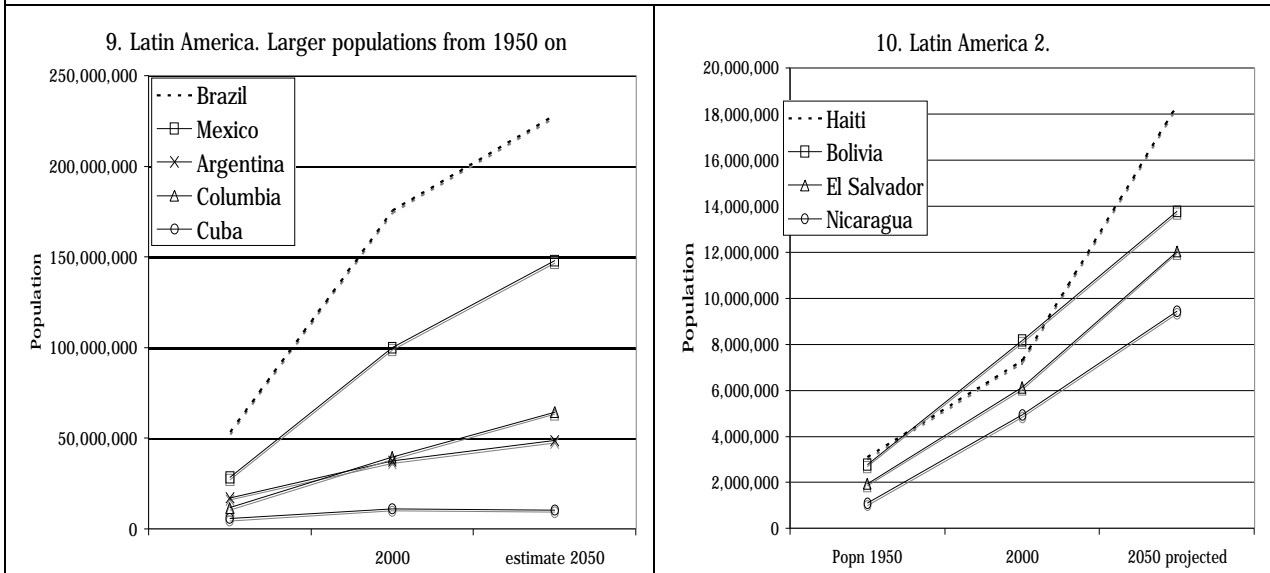
Figures from 1950 – 2000, and estimated for 2050 (not even Europe going below 1950) These graphs of world population growth adapted from Stanton (2004) show the exponential growth from around 500 million since the Industrial Revolution. India, Bolivia and Rwanda illustrate how quickly populations recovered from frightful disasters



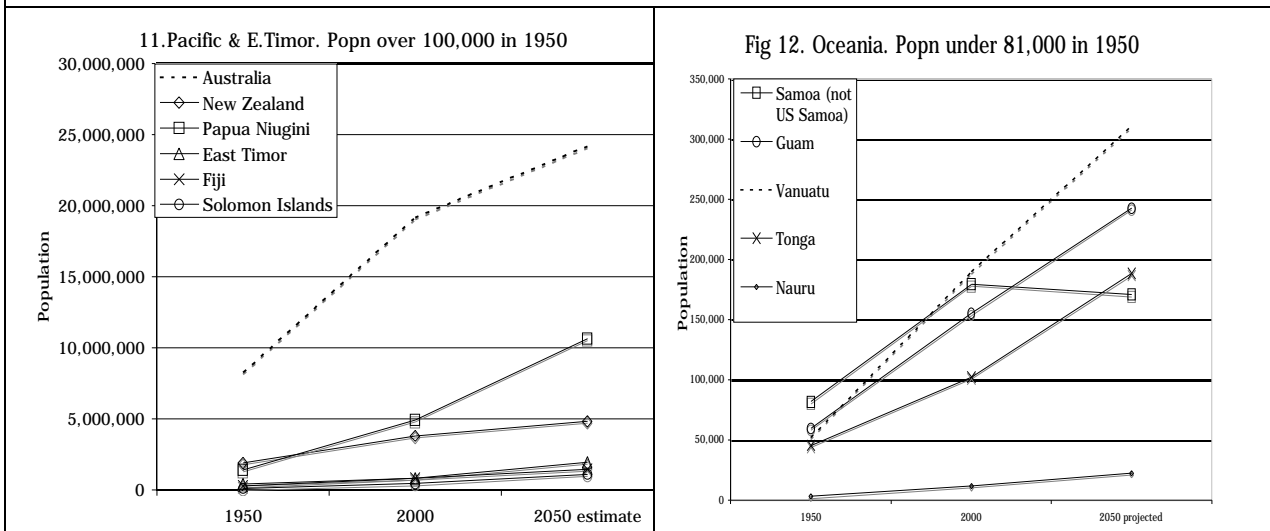
4. Asia populations 1950 - 2000 and estimated for 2050



5. Latin America



6. The Pacific



GLOBAL POPULATION GROWTH IN ONE HUNDRED YEARS

Illustrated by countries, 1950, 2000 and estimated for 2050

Why Poverty is unlikely to be history, and why solutions are unlikely to be free trade in commodities, migration, or migrant workers in industrialised countries sending back income to their homelands, and why stabilisation of populations may come too late, as populations are already exhausting resources. The actual population figures explain why growth rates that look harmless, like 2.6% for Mali, are actually grenades.

1. The WEST	Popn 1950	2000	2050 estimate
USA	152,271,000	282,339,000	420,081,000
Russia	101,937,000	146,732,000	110,764,000
Germany	68,375,000	82,188,000	73,607,000
UK	50,127,000	59,522,000	63,977,000
Italy	47,105,000	57,719,000	50,390,000
France	41,829,000	59,382,000	61,017,000
Spain	28,063,000	40,016,000	35,564,000
Poland	24,824,000	38,654,000	32,085,000
Turkey	21,122,000	65,667,000	86,474,000
Romania	16,311,000	22,452,000	18,678,000
Netherlands	10,114,000	15,908,000	17,334,000
Portugal	8,443,000	10,336,000	9,933,000
Australia	8,267,000	19,165,000	24,176,000
Belgium	8,639,000	10,264,000	9,883,000
Greece	7,566,000	10,559,000	10,036,000
Bulgaria	7,250,000	7,818,000	4,651,000
Serbia Montegro	7,106,000	10,850,000	9,782,000
Sweden	7,014,000	8,924,000	9,085,000
Austria	6,935,000	8,113,000	7,521,000
Bosnia&Herzegovina	2,662,000	4,035,000	3,892,000

2. AFRICA	Popn 1950	2000	2050 estimate
Nigeria	31,797,000	114,307,000	356,524,000
Egypt	21,198,000	70,492,000	126,921,000
Ethiopia	20,175,000	64,690,000	144,716,000
South Africa	13,596,000	44,066,000	33,003,000
Congo Kinshasa	13,569,000	52,022,000	183,177,000
Morocco	9,343,000	30,122,000	50,872,000
Algeria	8,893,000	30,309,000	43,984,000
Sudan	8,051,000	35,080,000	84,192,000
Kenya	6,121,000	29,986,000	64,820,000
Uganda	5,522,000	23,249,000	132,699,000
Angola	4,118,000	10,443,000	25,561,000
Mali	3,688,000	10,072,000	40,139,000
Ivory Coast	2,860,000	29,986,000	64,820,000
Zimbabwe	2,853,000	11,751,000	12,221,000
Zambia	2,553,000	10,117,000	22,188,000
Rwanda	2,539,000	7,507,000	19,935,000
Somalia	2,438,000	7,252,000	25,500,000
Burundi	2,363,000	6,621,000	22,853,000
Eritrea	1,403,000	4,350,000	10,164,000
Mauritius	481,000	1,179,000	1,451,000
Botswana	430,000	1,607,000	1,412,000

3. MIDDLE EAST	Popn 1950	2000	2050 estimate
Iran	16,357,000	65,660,000	89,691,000
Afghanistan	8,150,000	23,898,000	81,933,000
Iraq	5,163,000	22,676,000	56,361,000
Saudi Arabia	3,860,000	23,153,000	49,707,000
Israel	1,286,000	5,842,000	8,517,000
West Bank	771,000	2,020,000	5,580,000
Jordan	561,000	4,999,000	11,773,000
Gaza Strip	245,000	1,132,000	4,209,000

4. ASIA	1950	2000	estimate 2050
China	562,580,000	1,268,853,000	1,424,162,000
India	369,880,000	1,002,708,000	1,601,005,000
Japan	83,805,000	126,700,000	99,887,000
Indonesia	82,978,000	224,138,000	336,247,000
Bangladesh	45,646,000	130,407,000	279,955,000
Pakistan	39,448,000	146,343,000	294,995,000
Vietnam	23,348,000	79,060,000	107,773,000
Philippines	21,131,000	79,740,000	157,631,000
South Korea	20,846,000	47,351,000	45,224,000
Thailand	20,042,000	61,863,000	69,269,000
North Korea	9,471,000	21,648,000	26,364,000
Nepal	8,990,000	24,702,000	53,294,000
Taiwan	7,981,000	22,151,000	23,204,000
Sri Lanka	7,533,000	19,239,000	23,086,000
Cambodia	4,471,000	12,466,000	25,090,000

5. LATIN AMERICA	1950	2000	estimate 2050
Brazil	53,443,000	175,553,000	228,427,000
Mexico	28,385,000	99,927,000	147,908,000
Argentina	17,150,000	37,498,000	48,740,000
Columbia	11,592,000	39,686,000	64,534,000
Cuba	5,785,000	11,134,000	10,478,000
Haiti	3,097,000	7,306,000	18,403,000
Bolivia	2,766,000	8,153,000	13,773,000
El Salvador	1,940,000	6,123,000	12,039,000
Nicaragua	1,098,000	4,932,000	9,438,000

5. OCEANIA	1950	2000	estimate 2050
New Zealand	1,908,000	3,820,000	4,842,000
Papua Niugini	1,412,000	4,927,000	10,670,000
East Timor	436,000	847,000	1,943,000
Fiji	287,348	832,494	1,447,573
Solomon Islands	106,647	466,194	1,110,514
Samoa (not US)	81,858	179,466	170,739
Guam	59,900	155,324	242,692
Vanuatu	52,000	189,618	310,486
Tonga	45,700	102,321	188,340
Nauru	3,431	11,845	22,696

These tables are compiled from the U.S. Census Bureau, International Data Base. 4-26-2005
<http://geography.about.com/gi/dynamic/offsite.htm?zi=1/XJ&sdn=geography&zu=http%3A%2F%2Fwww.census.gov%2Fipc%2Fwww%2Fidbsum.html>

For each country, further demographic data from the Data Base include Births and deaths per 1,000

population, rate of natural increase (percent), annual rate of growth (percent), life expectancy at birth (years), infant deaths per 1,000 live births, total fertility rate per woman, midyear population estimates and average annual period growth rates, and for each decade 1950 to 2050, population by age and sex.

Population pyramids. The bulges in these pyramid structures for the youngest generations explain the explosive growth and why the population estimates for 2050 are often so high. For example, 40% of the population of Bolivia is reported to be under 15. However, the lack of adequate censuses means that many of the figures contain guesswork or are estimated from samples.

NOTES

1. The x axes vary in size according to the population range in each graph, and so large increases can still appear minimal (eg the increases in Bangladesh and Pakistan are huge). 2. How little wars, famines, massacres and AIDS affect the growth in Africa and the Middle East – they are mere blips. More important are the birth rate, family size, the rate of infant deaths, and the distance between generations – teenage pregnancies shorten the generations so that population growth is higher.

3. Note the countries where the growth rates have stabilised or even inverted, as in Russia.

E&OE. In most of these countries, projected decrease is not below 1950 population sizes.

4. These data depend upon the reliability of the data published by the US Census Bureau International Data Base. There must be instances where the estimates are more approximate than others.

The figures tie in closely with the data compiled by William Stanton (qv) except that he is pessimistic that the estimates for 2050 may be brought down by predictable Malthusian catastrophes.

POPULATION DENSITIES

Population densities are affected by deserts, mountains, barren soils and adverse climates. Australia and the Sahara for example, are mostly desert and semi-desert. Egypt is mostly uninhabitable, but huge populations crowd around the Nile River. High population densities are adding to environmental problems and reducing quality of life: in growing megacities, and are increasing socio-economic problems in countries such as the Gaza Strip (3204 persons per square km) Bangladesh (865), Nauru (525), and even the Netherlands (468), and England (382) where the traditional lush countryside and woodlands of Southern England are giving way to housing. Figures from Stanton, 2003. *The Rapid Growth of Human Populations 1750-2000: Histories, Consequences, Issues, Nation by Nation*. NI: Multiscience Publishing Company Ltd.

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Comment: On the world scene, the degree of population decline predicted in the West from its 1950 figures seems hardly to be worried about, compared with the degree of population increase in the rest of the world, and indeed, in some countries such as UK and the Netherlands with year 2000 population densities of 382 and 467 per km².

AN EXAMPLE: The GAZA STRIP. Population density of around 3204 in 2000 (Stanton).

Further figures that need to be considered to understanding its problems (from IDB as at April 2005)

Births per 1,000 population.....	40	Deaths per 1,000 population.....	4
Rate of natural increase (percent).....	3.6	Annual rate of growth (percent).....	3.8
Life expectancy at birth (years).....	71.8	Infant deaths per 1,000 live births.....	23
Total fertility rate (per woman).....	5.9		

Average Annual Period Growth Rates: 1950 to 2050 (Population in thousands, rate in percent)

1950-1960	2.3
1960-1970	1.1
1970-1980	2.9
1980-1990	3.4
1990-2000	5.7

Some questions about the graphs

1. Are they valid? The figures have been compiled from the US Census Bureau's online International Date Base as at April 2005. Where census data are unavailable, some estimates may be more guesswork than others, but the general directions are clear.

If the data are related to population estimates of 1800 and earlier (eg see Stanton), the growth is shown to be even more dramatic. The total world population 250 years ago is estimated at 600 million.

The projections for 2500 are based on age-structure pyramids, not included here. In countries where 40% of the population are under 15, for example, high growth rates can be expected, unless there are some humane or inhumane factors that bring surviving family size down sharply. Immigration is also a factor in the West.

2. The relation of percentage growth rates to actual population change. The bigger the population, the larger the real size of a percentage increase. A smaller percentage increase can have a larger effect than when the population was smaller.

3. Most people do not know the different sizes of the countries of the world. Why not?

4. How population size is related to available and future resources. Population densities seem relatively small in some countries, but rainfall, deserts, mountains and other barren areas can mean that much apparently empty space is uninhabitable bar a scientific miracle. Some breadbaskets and other sources of food are losing their fertility – eg Montana in USA. Climate change may not improve the situation.

5. The theory of demographic transition, that as people become more prosperous, they will have fewer children. However, the graphs show that the greatest population increases are in countries that are becoming poorer, in large part often because resources cannot cope with the increase.

6. The theory that an ageing population must be disastrous. Children in fact make more demands on the working population than the ageing. Unemployment is a problem with modern technology. The ageing today are healthier and able to contribute greatly to society, including in childcare. The average time of helplessness before death is two years, regardless of age. At some stage keeping a population younger – ie growing- must stop, or there is population catastrophe.

Who are the interests that push this theory, and why?

7. What are the interests that benefit from continued population growth? They are a mixed lot.

8. Why is it difficult to get publicity for figures of population growth and family size – for example, during the Make Poverty History campaign?

9. The relation of struggles for resources, internal conflicts and social disorder to Darwinian stresses of unsustainable population increases. Stanton argues that humanitarian values flourished in the West over the last 250 years because the West overall was prosperous and controlled sufficient resources to have quality of life. These values wither with Darwinian struggles and fears.

10. What could be done with greater awareness that the population issue is not solved., and that 3 billion more people by 2050 is half as much again as we have already, with most of the world poor and many hungry.

Charles Darwin's birthday 12 February 1809,

Natural Selection and the history of Making Poverty

Charles Darwin's birthday on 12 February is a time to reassess his theory of Natural Selection. In *The Origin of Species*, 1859, Darwin wrote: 'The struggle for existence inevitably follows from the high geometrical ratio of increase which is common to all organic beings. . More individual are born than can possibly survive. . . the struggle will generally be most severe between (individuals of the same species).'

Cruel natural and social checks kept human populations below 600 million 250 years ago. Since many checks were overcome, populations have skyrocketed to 6 billion today and now devastate natural resources. A predicted 9 billion by 2050 may hardly be borne. Western populations with slower growth have the most destructive quality of life, but in third world countries populations still explode, regardless of lowering percentage increases, with Darwinian type fighting for resources and survival, as in Rwanda, Ethiopia, Sudan, the Gaza Strip, Nigeria, Haiti and El Salvador. Population growth swallows all aid, increases poverty, and is exacerbated by competitive breeding, preventing any 'demographic transition theory'. All over the world, the spread of Western technology and exports mean that the poor no longer dress in rags, and that the food bins of the world supply millions who could not sustain themselves – until the fertility of the bins can no longer be restored. But the West ravages the world's resources for its own exorbitant needs, and its destructive example is being followed as the way to lift the living standards of the billions still with small 'footprints upon the earth'.

The question is: Can an intelligent species beat the operation of Darwinian principles for our survival?

For example, population figures 1950 to 2000 and estimates for 2050 barring catastrophes, can be related to a sample of news items this year:

Violent chaos in Haiti – 3 million to 7 million to 18 million
 Aid needed in Ethiopia – 20m to 65m to 145m
 Funds needed for Iraq reconstruction - 5m to 23m to 56m
 Environmental problems in Indonesia – 83m to 224m to 336m
 Refugee problems in Egypt - 21m to 70 m to 127m
 Refugees from Sudan – 8m to 35m to 84m
 Increasing instability in Gaza – 245,000 to 1m to 4m
 Civil war rising again in Sri Lanka – 7m to 19m to 23m
 Mali economy's reliance on expatriate workers – 4m to 10m to 40m
 Mexican economic reliance on expatriate workers – 28m to 100m to 147m –
 Congo – poverty driving prostitution – 13m to 52m to 183m
 Rwanda – continuing strife and chaos – 2.5 millions to 7.5 million (despite massacres) to 19 million.

Developed countries' smaller population growth also encroaches on environmental resources -
 Gas emissions grow in USA – 152m to 282m to 420m
 UK Airport expansion, nuclear power needs and keeping out asylum-seekers - 50m to 59m to 64m
 Japan continues whaling for meat – 83m -126m to 100m
 Population decline for reasons of economic and cultural catastrophe is not a path to follow, as in Russia,
 101m to 147m to 111m

Figures from the US Census Bureaus International Data Base, as at April 2005 . See also the 235 graphs of individual nations in Stanton, William. 2003. *The Rapid Growth of Human Populations 1750-2000: Histories, consequences, issues, nation by nation.* Multi-Science Publishing Company, Brentwood, Essex.

WHAT COULD BE DONE HUMANELY

to prevent inhumane and catastrophic solutions to the nightmare of 9 billion people by 2050

The year 2005 saw unprecedented public concern to Make Poverty History, especially for 'basket-case' Africa, and disastrous natural calamities that presage what climate change could do to populous areas. The major solutions offered have included more aid, debt cancellation, free trade to sell raw materials to developed countries, welcome of refugees into western countries, and imposed 'reforms' such as selling off infrastructure for private profit and better deals for foreign investors. However, the World Bank calculated in 2001 that over £700 billion had been disbursed in aid in the previous 50 years with no significant effect on living standards in the Third World (Stanton, 2003, largely because world populations have grown.

Present complacency assuming that world population is stabilising misinterprets statistics - that a percentage drop in population growth means a drop in the number of people, whereas this may still be increasing, as the bigger the population becomes, the larger even a smaller percentage will be.

A second assumption is the myth of the 'demographic transition theory' that as people become more prosperous, they have fewer children. So, lift a people out of poverty, and the population problem will be solved, but does not work either in developing nations, where many factors, primarily increasing population, prevent reduction of poverty.

In *Population Crises and Population Cycles* (1999) Claire and W M S Russell showed how throughout history, unless there are checks on population growth, natural or man-made, then humans, like animals, multiply until they have consumed their own resources and unless more resources are found, there will be a catastrophic crash. These population checks have usually been inhumane - disease, famine, wars and murderous social practices. When these checks were lifted in the West 250 years ago by series of improvements in agriculture, health and technology, its populations soared, but emigration was possible to 'empty' spaces. Then the West discovered how to limit family size for better quality of life, but the potential refugees at the gates now number hundreds of millions, Drivers of population growth need tackling. It is ironic that large families are seen as a necessity in overpopulated countries like the Philippines and some Pacific Islands because these rely heavily on income from their expatriate children - in Tonga, for example, supplying 70% of national income (Personal information). Immigrant workers can be welcomed by rich countries to supply cheap and docile labor, despite local unemployment, so there are business pressures to encourage them. Population growth is an issue that now affects everything

Drivers of population growth

The only humane limiters of catastrophic population growth are family planning and voluntary limitation of reproduction to replacement. A United Nations convention for the 'right to reproduce' (one each) and the right to social conditions that give a chance of healthy child-rearing could counter the cries of 'Genocide!' that can greet efforts to supply education and means to plan family size.

In poverty-stricken countries, many children are insurance against high child mortality and no social services, as well as supplying extra hands. Alternative solutions are needed, through social justice.

Western media could do more for global education for mutual survival rather than being captive to commercial interests. Powerful commercial interests benefit from mass markets and dumb consumers and so they promote economic growth as the solution for poverty, and the side-issue of the false spectre of ageing populations (Yule, 2001). It is possible for homo sapiens to have instead sustainable economic systems with growth in quality rather than quantity as their incentive and with investment in jobs that are needed, including rescue rather than destruction of our environment and its resources. (See, e.g. Yule 2005.)

Western aid could involve more assistance for self-sustainability, which must include more family limitation, and less influence from those who profit from supplying aid. At present Western food suppliers sustain peoples with no present hope of ever being able to feed themselves, as their numbers continue to grow. All these necessary actions face such a range of strong interests benefiting from population growth that its hand is not allowed to be seen as the major issue it is, exacerbating climate change and greenhouse gases. Fear also no doubt influences the media in keeping the topic to page 8, because it is too explosive.

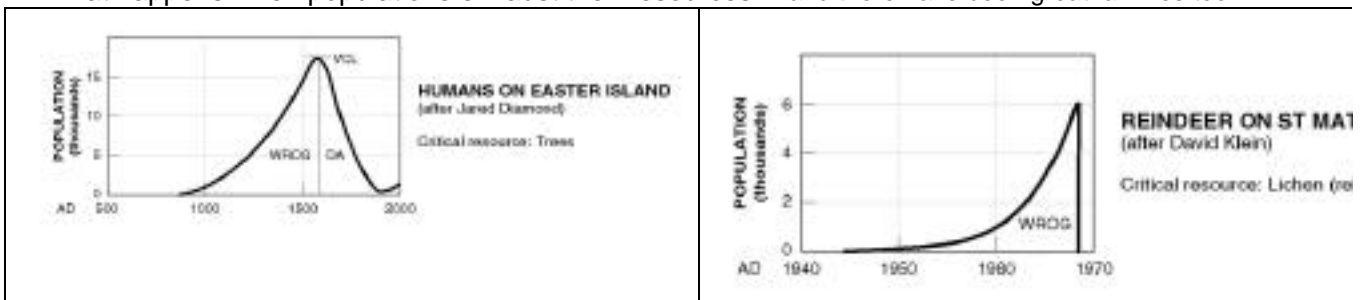
Many governments seek internal solidarity by directing fear and enmity towards external enemies. Suppose now, as new diseases and deserts as well as earthquakes threaten our future, the world's people unite to fight the real enemy, the challenges against us all. One response should be to really tackle the drivers of overpopulation, as it becomes clear that aid for devastated areas is swallowed up in population increase.

Access to family planning is welcomed by women, to reduce their own suffering and the deprivation of their living children. More public education everywhere is needed and possible, to counter the religious and political pressures to multiply competitively, and the confounded cheek of western countries in seeking to raise their own fertility while economic refugees now number hundreds of millions. The West should not have national policies to encourage larger families of their own, rendering blatantly hypocritical any attempts to help reduce family size in other countries. Let the memes run around the world, through promoting literacy and spreading information through entertainment, documentaries, and web-sites with, for example, simple one-sheet fact sheets on population, energy, resources, sharing resources, and preparation against natural dangers. People can query these facts but they should be out in the open, to counter the myths.

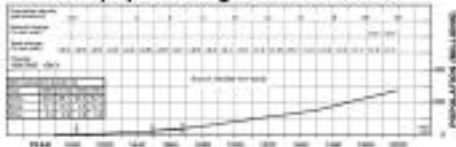
It is possible: to change the fatal flaw of global capitalism which is the push for continually growing markets and cheap labor; to have stable populations with a higher proportion of elderly; to turn around the losses of fertile lands and seas, the escalations of economic refugees, animal extinctions, oil and water wars, slum megapolises and toxic pollutions.

In the past, Nature kept the population in check by inhumane means. In the two hundred years since humans won the battle against Nature here, populations have soared, except where women have been able to control their own fertility. Now is the time for all people to understand that population growth is devastating the earth's resources and amenities and their own immediate futures - and to work for the right of everyone to have a child of their own with a decent chance in life - but not the right to multiply beyond bearing.

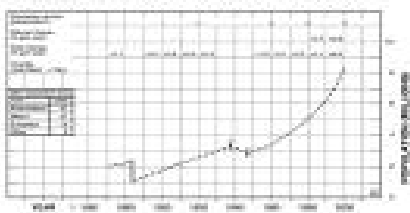
What happens when populations exhaust their resources - and there have been great famines too



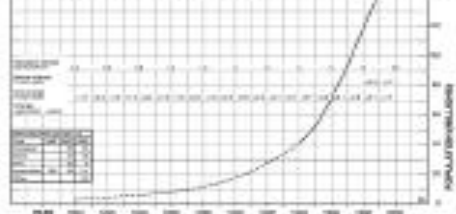
U.S.A. population growth 1800-2000



Bolivia 1880-2000 (estimates)



Brazil - population growth 1800-2000, 200 years



IRAN (Persia) 1900-2000

