Drafts to complete

13 FACT SHEETS ABOUT SURVIVAL AND POPULATION

with links to more information

FACT SHEET 1
INDEX OF 13 FACT SHEETS ABOUT POPULATION

SHEET 2. POPULATION STATISTICS OF THE WORLD

Graph of population growth 500 BC to now, and tables of population growth by country in the last 100 years. Population crises and crashes and the inhumane ways that populations have remained 'sustainable' in the past, through famines, wars, diseases and cruel social customs. The statistical fallacy that if rates of world population growth decline, the numbers of growth will also decline. We will still pass 9 billion people in the world from 6 billion now and 3 billion in 1950, unless there is a disaster.

SHEET 3. WATER RESOURCES AND PROBLEMS OF THE WORLD.

With climate changes, some regions are becoming dryer, and others wetter, butoverall water shortages will be a key to food supplies and sustainability.

SHEET 4. WATER RESOURCES OF AUSTRALIA

including a table comparing Australian and overseas rivers, showing why diverting water from the north is not a solution, salinity and exhausting artesian waters.The fate of the Murray-Darling River Basin.

SHEET 5. FEEDING POPULATIONS now and in the future.

Tables of poor regions that at present rely on food imports, and their population growth. Major sources of food and what is happening to them, including fishstocks and food baskets. Map of soil degradation. Sources of fertilizers and their future and their effects.

SHEET 6. AUSTRALIAN SOILS

Paleobotanist Mary White's history of Gondwanaland. Why Australia is mostly poor eroded soils. What is happening to ruin our fertile soils – erosion, salination, erosion from fires, drought and farming practices, nutrient imbalancesand housing developments. Fertilisers in Australia and consequences of how they are used.
http://home.vicnet.net.au/~aespop/aespmappage.htm

SHEET 7. WHO GAINS FROM POPULATION GROWTH.

The drivers of population growth. Political and religious competition, profits fromreal estate values and the building industry, mass markets, and surplus laborpools.

SHEET 8. AGEING AND STABLE POPULATIONS AND QUALITY OF LIFE.

How countries can be prosperous despite ageing populations; effects of stablepopulations on quality of life and economies; contrast of the economic demandsof young and old populations.

SHEET 9. AUSTRALIAN POPULATION GROWTH AND QUALITY OF LIFE.
What happens to the Great Australian Dreams, types of homes, traffic, community, crime, crowds, queues, transport, gardens, children's free play, accessible bushland and beaches, shortages.

SHEET 10. THE BIG RESOURCE-GUZZLERS AND DEVELOPING COUNTRIES. What happens as developing countries seek to have the quality of life of the West,and as quality of life in the West itself is threatened.

SHEET 11. HOW CIVILISATIONS HAVE DIED. Includes map with deserts. & accounts from Russell & Russell, and WilliamStanton.

SHEET 12. POPULATION GROWTH AND HOW IT AFFECTS CLIMATE CHANGE, POLLUTION, WAR, DISEASE as threats to the planet

SHEET 13. ACTIONS AND SOLUTIONS – a summing up

Val Yule, with thanks to Sheila Newman and . .
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http://home.vicnet.net.au/ozideas

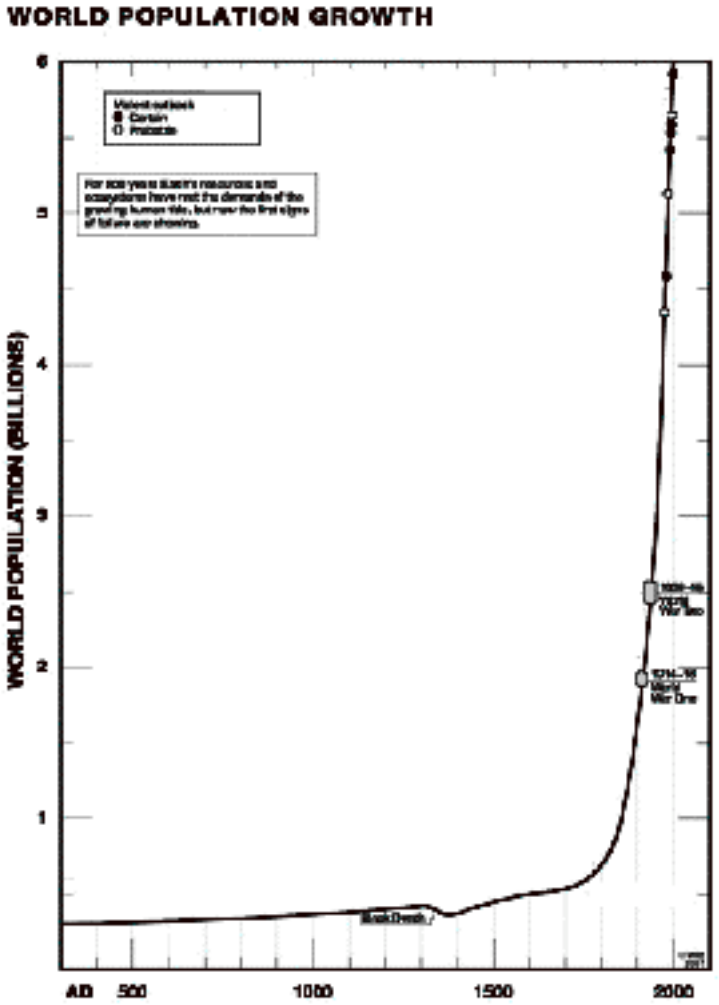
FACT SHEET 2
POPULATIONS OF THE WORLD

World Population growth

1959 3 billion, to 2008 6 billion, to 2050 9 billion . .

. . unless there is some catastrophe – or family planning cuts family sizes to two. Sure, rates of growth are slowing, but the numbers still grow too rapidly, since small growth rates of large populations are still very large.

- Until recently world population grew slowly because it was kept down by diseases, famines, disasters, and cruel wars and social practices.
- Today humanitarian efforts have cut death rates and save children. So populations have soared when there are not at the same time humane ways to limit population growth to what a region can bear.
- Populations have crashed and civilisations have been destroyed when population outstripped resources. We should know better today.



World Population growth - Fact Sheet 2

	1959 3 billion,	to 2008 6 billion, to	2050 9 billion estimate
USA	152 million	282 million	420 million
Russia	101 million	146 million	110 million
Germany	68 million	82 million	73 million
UK	50 m	59 m	63 m
France	41m	59 m	61m
Turkey	21m	65m	86m
Netherlands	10 m	15 m	17 m
AFRICA – despite AIDS and wars	1950	2000	2050
Nigeria	31 m	114 m	356 m
Egypt	21 m	70 m	126 m
Ethiopia	20 m	64 m	144 m
South Africa	13 m	44 m	33 m
Congo Kinshasa	13 m	52 m	183 m
Sudan	8 m	35 m	84 m
Kenya	6 m	29 m	64 m
Uganda	5 m	23 m	128 m
Zimbabwe	2 m	11 m	12m
Rwanda	2 m	7 m	19 m
Somalia	2 m	7 m	25 m
THE MIDDLE EAST			
Iran	16 m	65 m	89 m
Afghanistan	8 m	23 m	81 m
Iraq	5 m	22 m	56 m
Saudi Arabia	3 m	23 m	49 m
Israel	1 m	5 m	8 m
Jordan	561,000	5 m	11 m
Gaza Strip	245,000	1 m	4 m
ASIA			
China	562 m	1,268, m	1,424 m
India	369 m	1,002 m	1,601 m
Japan	83 m	126 m	99 m
Indonesia	82 m	224 m	336 m
Bangladesh	45 m	130 m	279 m
Pakistan	39 m	146 m	294 m
Philippines	21 m	79 m	157 m
Nepal	8 m	24 m	53 m
Cambodia	4 m	12 m	25 m
East Timor	436,000	847,000	1.9m
LATIN AMERICA			
Brazil	53 m	175 m	228 m
Mexico	28 m	99 m	147 m
Venezuela	5 m	23 m	37 m
Haiti	3 m	7 m	18 m
OCEANIA			
Nauru	3,431	11,845	22,696
Tonga	45,700	102,321	188,340
Solomon Islands	106,647	466,194	1 m
East Timor	436,000	847,000	1.9m
Papua Niugini	1 m	4.9 m	10 m
New Zealand	1.9 m	3.8 m	4.8 m
Australia	8 m	19 m	24 m

Tables compiled from the U.S. Census Bureau, International Data Base. 4-26-2005

Notes for

FACT SHEET 3 WATER RESOURCES FOR GROWING POPULATIONS

Table 1

Rainfall and Rivers

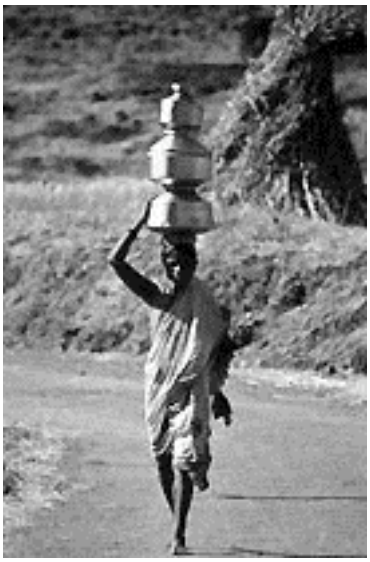
Continent	Average rainfall p.a, mm.	Average run-off mm.after evaporation	Largest river	Average annual flow of largest river. mill megalitres	Total run-off pa from rivers mill. megalitres	Megalitres per sq km
South America	1350	490	Amazon	5,705	16,545	930
Africa	1660	160	Congo	1,302	20,700	685
Asia	610	220	Yangtze	1,129	13,050	296
North America	660	260	Mississippi-Missouri	584	7,038	290
Europe	580	230				
Australia	420	45	Danube	254	2,427	250
			Murray-Darling	13	387	51

Maps, tables, text and graphics are also needed to to show:

- Underground aquifers; the great artesian basins
- Approximate water use per head of population in contrasting regions
- Areas where fresh surface drinking water is short;
- The state of river basins of the world, such as Nile, Euphrates, Murray-Darling, Brahmaputra, Mekong, Yang-tze, Jordan valley, etc);
- Countries and coasts (e.g. Dubai) relying on desalination;
- Projected effects of climate change.
- Tables of waterborne diseases in the world likely to increase with climate change.
- Adjacent countries and states with conflicts over water, such as Israel-Palestine; Australian states over the Murray-Darling Basin; international conflicts over water from major watercourses and their head-sources, such as for the Ganges, Bramaputra, Mekong, Euphrates
- Problems with dam-building and consequences
- Problems with wells. From pre-history on, tribes and nations have relied on wells for water. As populations have grown, wells have become more problematic, and sometimes exhausted. Groundwater can be contaminated, as

when the Bangladeshi well-digging campaign resulted in unexpected arsenic poisoning.

- Problems of water sources wrecked by sewage, industrial pollution, logging of catchments
- Areas in developing countries where people must source their water from ever further and further away, carrying it however they can.



http://www.cbmphoto.co.uk/India/Womwater.html

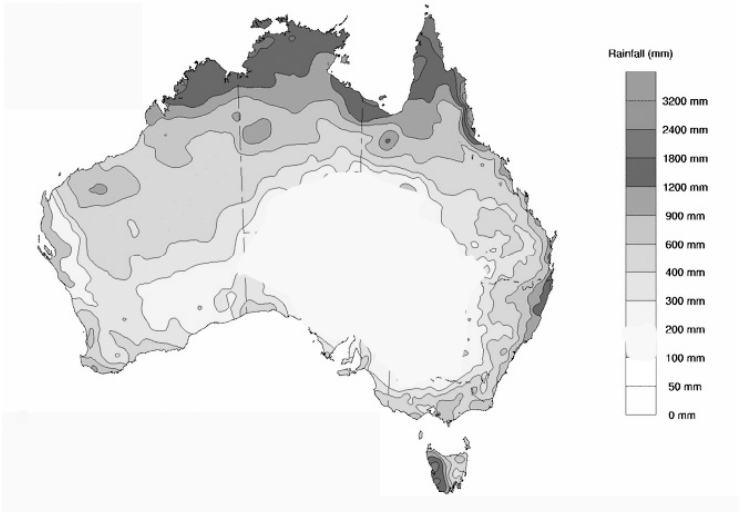
- Risk to fair access to world water resources - Water as a commodity, not an essential service.

The Managing Director of Water in the government of Victoria, Australia, wants the public to stop thinking water is an essential service, and regard it as only a commodity to be bought and sold for private profit, subject to market forces. (Melbourne Age, April 3, 2009, p 5). He adds that water is 'already privately owned in my view', and indeed this is happening world-wide, to end up in multinational ownership.

Draft. E&OE. POPULATION FACT SHEET 4

WATER RESOURCES OF AUSTRALIA

Why Australia is the world's driest continent.



Rainfall map. Most of Australia has been averaging less than 30 cm of rainfall per year.

The average annual rainfall on the earth is 81.28 cm/32 inches

AUSTRALIA'S SHARE OF WORLD WATER RESOURCES,

A crucial problem of Australian rivers is variable flow, with unpredictable droughts and floods. Records show that this variability has been far more erratic in Australia than in any other continent,

Table 1. The variability of the major river flows in Australia (megalitres)

River	Average flow, ML p.a.	Maximum flow	Minimum flow	Max/Min ratio
Lachlan, NSW	133,000	7,300,000	5,300	1,370
Darling, NSW	320,000	2,915,000	12,800	227
Burdekin, Q	7,000,000	23,000,000	154,000	167
Coliban, Vic	66,000	157,000	6,900	22
Murray-Darling 3,750 km	13,000,000	40,000,000	2,500,000	16
Goulburn,Vic	1,880,000	7,360,000	692,000	11
Comparison				
Mississippi, USA,3,779 km	580,000,000	1,030,000,000	260,000,000	4

Table 2. Comparisons of average annual river -water run-off in million cubic metres

Amazon river, S. America	6,700,000
Yangtze river, China	689,000
Ganges river, India	590,000
Yenisei river, Russia	560,000
Mississippi river, USA	550,000
Columbia river, USA	230,000
Rhine river, Europe	70,000
Australian continent	293,000
Tasmania	50,000

Massive water transfers such as north – south schemes are still impracticable due to problems such as variability and pumping, and our potential solar resources are still not used for desalination.

AUSTRALIA'S GROUNDWATER RESOURCES. See report at http://www.anra.gov.au/topics/salinity/groundwater-flow/index.html, focusing on problems of dryland salinity including effects of clearing in raising saline water tables.

"* Local groundwater flow systems respond rapidly to increased groundwater recharge. Water tables rise rapidly and saline discharge typically occurs within 30 to 50 years of clearing of native vegetation for agricultural development. These systems can also respond relatively rapidly to salinity management practices, and afford opportunities to mitigate salinity at a farm scale.

* Intermediate groundwater flow systems have a greater storage capacity and generally higher permeability than local systems. They take longer to 'fill' following increased recharge. Increased discharge typically occurs within 50 to 100 years of clearing of native vegetation for agriculture. The extent and responsiveness of these groundwater systems present much greater challenges for dryland salinity management than local groundwater flow systems.

* Regional groundwater flow systems have a high storage capacity and permeability. They take much longer to develop increased groundwater discharge than local or intermediate flow systems-probably more than 100 years after clearing the native vegetation. The full extent of change may take thousands of years. The scale of regional systems is such that farm-based catchment management options are ineffective in re-establishing an acceptable water balance. These systems will require widespread community action and major land use change to secure improvements to water balance. "

PROBLEMS OF UNSUSTAINABILITY OF GROUNDWATER.

See http://www.nwc.gov.au/www/html/180-sustainable-management.asp
Groundwater has too often been seen as an infinite resource, but it is not. Too many licences may be issued and too much groundwater extracted, not to be replaced. This has been made worse by licensed groundwater usage not being metered in many parts of Australia, provision of free or under-priced groundwater, and failure of management plans to recognise that groundwater and surface water are connected.

Notes for

FACT SHEET 5. FEEDING POPULATIONS

now and in the future

If all the food produced now were fairly distributed, nobody need be hungry. As it is, millions go hungry, while in many Western countries up to 70% of food is never eaten, and in other countries waste results from vermin, inadequate preservation, and distribution problems. However, as populations grow by another third, food resources will be diminishing unless science produced miracles not to be counted upon.

- Maps showing poor areas that rely on food imports, and showing those that are unlikely to be able to feed themselves with their present populations.
- Table of countries and regions that are permanently food importing a)50 years ago. b. now.
- Table of location of refugee camps over ten years old and over 10,000 refugees, and their population growth figures
- Major sources of food and what is happening to them, including fish stocks and food baskets. (eg the saying that every k of wheat grown in Australia costs 8kg of soil fertility. Is this true?)
- Map of soil degradation
- Sources of fertilizers.
- Outcomes of Green Revolution
- Possibilities of GM Foods
- Possibilities of new farming techniques
- Land ownership and rural population growth
- Conflict between self-sustaining crops and commodities grown for export
- Carbon emissions, embedded emissions and virtual water in food supplies

A source: - OECD-FAO Agricultural outlook 2006-2015, at http://books.google.com.au/books?id=VoQjj2MNgJ8C&pg=PA28&lpg=PA28&dq=countries+unable+to+feed+themselves&source=bl&ots=EYgANzUBG-&sig=4k0aGAZeMtXK6LitFkucqtpKniE&hl=en&ei=QhTTSYegA4zy6gP4rN2lBA&sa=X&oi=book_result&resnum=10&ct=result#PPP1,M1

and http://earthtrends.wri.org/

http://blog.theirc.org/?gclid=CPyTmPGVz5kCFQOqbwodZRPeuQ

Notes for

FACT SHEET 6. AUSTRALIAN SOILS and POPULATION GROWTH

Australians soils are complex but some general statements about their history explain the problem that as Europeans have assumed that we have deep, fertile European soils. However, much of our Continent is very old eroded soil, and much of the rest is quickly leached of its fertility after the first few lush crops. See the history of Gondwanaland, and how it lost its green, documented by paleobotanist Mary White.

From http://home.vicnet.net.au/%7Eaespop/aespmap.gif

The dark areas represent the (relatively) fertile areas of

an otherwise desert continent. Although parts of the northernmost

coast are well watered, the soil is very poor

And see http://home.vicnet.net.au/~aespop/aespmappage.htm

Further grafics to include a map of Australia showing:

1. Desert soil or rock - lacks too many essential nutrients

2. Semi-desert - some missing essential nutrients could be replaced

3. Low fertility - cannot sustain pasture or agricultural use without substantial fertilizer replacement

3. Medium fertility - can sustain pasture or forest

4. High fertility - good agricultural land

5. Super fertility – no need for fertilizers.

Also maps to show problems, salination, erosion, nutrient imbalances etc.

- soils threatened by salinity etc,
- areas of degradation since settlement.
- Aerial fotos of before and now.
- A coming problem for Australian forestry - that much of the soil cannot bear repeated felling.
- Natural fire cycles for old-growth forests and burn-offs - Each time the poor Australian soil loses nutrients that are not replaced. There is immediate new fertility from the ashes – but much of the rest of the fertility has blown out to sea or elsewhere, or eroded away. Every fire leaves the soil worse off – and yet repeat burn offs are at present our only solution to prevent terrible bushfires.
- The cost of agriculture for Australian soils - how much a bag of wheat can cost the future.

- Dust – how much is lost in dust blown out to the Pacific – thru storms, drought, cattle, motorbikes, droving, four-wheel drives. These are not considered – but they play serious parts.
- Australian gardens – how much they take of river sand, sphagnum moss, and all forms of fertiliser because not as rich as European soils – leach out quickly after the first plantings after native vegetation is removed.

The general poverty of Australian soils is due to lack of volcanic or glacial activity required to renew soil. the most recent volcanic activity was ten million years ago in the South East portion of the continent (which is relatively fertile).

Australia has few permanent rivers. Extensive manipulation of its fragile river systems for irrigation, combined with massive deforestation, has accelerated soil degradation and contributed to extensive salinisation and creeping desertification.

The 'islands' of comparative fertility are preferred habitat of most Australian fauna, which must compete there with rapidly growing, highly urbanised human population.

From the 1994 Report: "*Australia's Population 'Carrying Capacity': One nation - two ecologies*." <http://www.vicnet.net.au/%7Eaespop/aespvicdidyouknow.htm>

SOME CHARACTERISTICS THOUGHT TYPICAL OF AUSTRALIAN ECOSYSTEMS

It is now widely believed that Australian animal and plantlife have adapted to prevailing conditions over the past 40 million years or so, using typical characteristics: They grow and reproduce very slowly. The number of big warm blooded carnivores at the top of the food chain is very small and those animals tend to be little. The biggest carnivores tend to be cold blooded, like lizards and crocodiles, which have lesser energy requirements. Metabolisms tend to be slow to conserve energy use. Diversity of species is extremely high with a correspondingly minutely adjusted ecosystem incorporating highly specialised characteristics and co-operative behaviours. Some interesting adaptations amongst plants include the fact that Australia possesses the largest variety of carnivorous plants in the world. It is thought that these plants supplement our notoriously nitrogen deficient soil by obtaining nitrogen from live prey.

"..Poor soils and the El Nino Southern Oscillation cycle have put a premium upon retaining and rapidly recycling nutrients. This can be done most efficiently by various species developing intimate relationships. Species which belong to an ecosystem which does not have such efficient nutrient recycling are rapidly selected against. Those which co-operate in large, complex systems to maximise the availability of nutrients - such as corals, fish and other creatures of the Great Barrier Reef, or the plants and animals of the Australian rainforests - have a competitive edge..."

"The highly coevolved ecosystems that have resulted from this evolutionary pressure are extraordinarily good at maximising whatever nutrients are available ... [but they are] extremely fragile" From Dr Tim Flannery's *The Future Eaters* 1994.

THE REASON FOR EUROPE'S HIGHLY FERTILE SOIL, and very different ecosystem, supporting over 660 million people. Europe is mountainous and fertile with predictable seasonal patterns. Only 8000 years ago the last glaciers of the most recent European ice age melted, leaving a rich legacy of countless millions of tons of pulverised rock, releasing nutrients and laying down deep and fertile soils.

FACT SHEET 7. WHO GAIN FROM POPULATION GROWTH? – The drivers of population growth

IN DEVELOPED COUNTRIES, both governments and commercial interests seek continual growth of mass markets, continually increasing consumption, a prosperous building industry, rising prices for real estate, and docile pools of labor. They fear supporting ageing populations (See Fact Sheet 8). It is at present political inexpedient for governments to encourage lower rather than higher birth-rates. However, Government funding of babies is most likely to encourage fertility at the welfare-receiving end of the socio-economic scale, where larger families may not receive a fair chance in life.

Western nations' pronatalist policies for their own countries is scandalous in face of soaring distress overseas of overpopulation beyond resources. National pronatalism is economically wrong because even with the most open of doors, the West could not contain the rising tides of economic refugees from the South. Imagine Australia taking in the overflow of millions, not just a few hundreds or thousands, from Indonesia, PNG, East Timor, the Solomon Islands and other brimming islands of the Pacific. There are still more increasing millions in Africa, the Middle East, Latin America and the smaller nations of the Indian subcontinent.

VESTED INTERESTS may promote complacency about economic refugees because they can become low-paid labor in developed countries, including as seasonal workers, laid off when not wanted.

NATIONAL PRONATALISM is also politically wrong. The West cannot promote family planning for poor countries while paying its own nationals to have more babies, without being seen as horribly hypocritical and arousing cries of 'genocide'.

IN THE WORST HOTSPOTS OF THE WORLD, populations are soaring, in spite of failed statehood, social and economic chaos, wars, massacres, AIDS and famines.

Throughout history and folklore, the poor have been burdened with more children than they can raise, as well as with the distress of having no children.

WHERE THERE IS NO SOCIAL SECURITY AND CHILD DEATH-RATES HAVE ALWAYS BEEN HIGH, it makes sense to have many children, in the hope that some at least will survive to help support their parents. Increasingly states as well as families are depending on remittances from their children working abroad (as with Tonga, raising 70% of its GDP from expats sending money home, and the Philippines are also reliant). And children can be the greatest joy in life – and they may be the only joy the poor can have. Where women have access to education and family planning, they show their desire for smaller families, the size they can cope with.

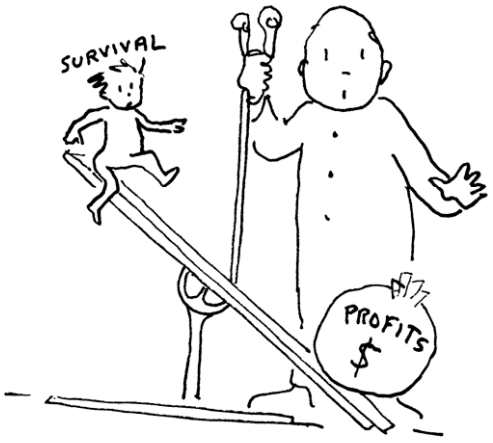
RELIGIOUS AND POLITICAL RIVALRIES WITH INTERESTS IN OUTBREEDING OTHERS. Religious dogmatism overlooks that the commandment of their God to increase and multiply is the only divine commandment that has now been fully obeyed. Now it is time to obey the other commands, about loving neighbours and so on. Religions and politics that foster outbreeding their rivals increase the hate and fear in the world as well as the scandal of using breeding more children as 'our weapons'. Influential American fundamentalism agitates more strongly for the unborn embryo than for the living child, and cares insufficiently for their earthly future.

There is also the mistaken logic that when something is good, more must be better still – so no limit to children. And the further mistaken reasoning that only God should decide conceptions and so contraception is against God's will, but not admitting that other human actions also decide reproduction. Yet religions now welcome other human inventions and interventions in health measures as obeying God's will to be compassionate

PROVIDING FOOD AID AND POLICING for poor nations may even serve the interests of donor nations and aid organizations. This too is a problem that must be faced. It is becoming increasingly clear, especially in Africa and among Australia's neighbours, that however generous the aid and the policing, they will be unable to solve population growth, or even keep up with its increasing needs.

One of the two sanest things that humans could do to try to save the planet would be to redirect financing of armaments to the education of women, supplying access to family planning, and helping all states to become economically secure. (The other sane thing is to reducing the heavy 'footprint on the earth' that currently accompanies rises in standard of living.) What are the forces that not only prevent this, but actively prevent such campaigning?

CAPITALISM has raised living standards through the whole world. Even the poorest now wear T-shirts, not rags. But our economic system must find a way to operate without requiring continual growth and consumption, seeking growing mass-markets and cheap labor.



It's quite obvious which carries the most weight

Incomplete Notes for

FACT SHEET 8. AN AGEING POPULATION IS NOT DISASTROUS

The solution to an ageing population cannot be by increasing the younger population, because they in turn will age and need more younger populations – the problem can only get worse and worse

It is absurd to worry about the demands on the economy and shortage of labor with an ageing population at the same time as worries about youth unemployment.

Who promote the 'ageing population' argument for increased population? See FACT SHEET 7. Arguments against include:

- The increasing good health of the aged, and prevention of chronic debilitating illnesses. At 70 today most are healthier than most people at 60 even a few decades ago The healthy aged still contribute, socially and intellectually, including in production, such as farming. They are the backbone of volunteers, civic action and childcare as grandparents.. Old people with super and investments are not even a tax burden.

- Modern methods of production mean that very few workers are needed to keep the rest of us alive (And look at the average age of our farmers today, and how may are over 70!) At present, at age 40+, employees can become permanently unemployed - yet with modern health, half the 65-75 age-group and thousands over that age are still capable of great contributions to our society. Childcare is more costly than aged care apart from the debilitated 'Struldbrug' aged.
- The present consternation over the ageing and stabilisation of Japan's population is misplaced. Overcrowding has been an increasing problem. Rather than yet further population growth, what is needed is economic innovation that can solve its present perceived problems of decline in property values and in scope for speculation, and reduced consumption of natural resources leading to lower profits and unemployment.
- Thousands of prosperous societies in the past with stable populations,have had solutions to the 'aged' problems in one way or another – including the Chinese roles of honour given to the elderly – although they did not have such a high proportion of survivors as today.

Myths and fallacies currently influence governments' population policies. Even the 2000 report on Replacement Migration from the United Nations Population Division is a fable for our times in its arguments about continuing population growth being essential in developed countries (never mind in the developing ones.) The report argued that the demographic characteristics of the very low fertility countries must change if they are to end up with an economically sustainable age-structure'. Pro-natalist policies can be promoted to avert a supposed disaster of 'excessive population ageing'. Yet encouraging more local births may evade and ignore important issues - and are a national shame while more than 23 million refugees are homeless and hungry.

Critics of the position of the UN report' have included Jill Curnow in a monograph on 'Myths and the Fear of an Ageing Population [2] and Henri Leridon writing in the bulletin, Population & Sociétés, of INED, the National French Institute For Demographic Studies, the primary public institution on demographic policy in France. [3] Leridon commented on the United Nations replacement immigration: *'To want to maintain at all costs the ratio of [aged to youth] is truly to try and fill the Danaïde's well.'*

One reason for fearing an ageing population can be from seeing Australia's rural problems when the young people leave for cities. However, this is a problem of <u>lack</u> opportunities for the young - a lack of desirable employment - not the problem of <u>too much</u> work for the young that the 'ageing population' scare envisages.

An important part of the myth of disaster from ageing-populations is the fallacy that growth must never end. This has been promoted by pressure groups that benefit from population growth through escalating values of real estate, mass markets, demands for building, and, in supporting immigration, importing cheap docile labor for unpleasant jobs, and already-skilled personnel that have not cost the reception country any expense in education and training.

There is less recognition that growth has downsides. Russell & Russell's have surveyed the lessons of past civilisations which have grown beyond the resources available to them, and collapsed.[4]

The story of Easter Island is like a microcosm of what we can see elsewhere in the world today. Prosperity is not dependant upon continual quantitative growth and can be destroyed by it. 'Growth' is like riding an accelerating bicycle, unable to stop pedalling because otherwise we would fall off. Yet at some stage there must be a stop - or a crash.

Many developed as well as developing countries show problems that are increasing by growing population further -

- Excessive loss of arable land to urban development,
- The social problems of congested cities,
- A huge pool of the unemployed and even unemployable - much of it recent immigrants who are on the lowest rung of the jobs ladder -
- Increasingly risky and often inhumane methods and of mass food production,
- Intractable traffic,
- And a cultural malaise that can infect the second generation of immigrants even if the first-comers bring 'fresh blood' and energy.

Growth can stop without disaster. There are alternative advantages for profits and employment in a stable or even declining society. A look around Australia - or any country - shows so much qualitative improvement that is needed and possible that there should be no shortage of jobs and profits without requiring continual increased consumption and waste of diminishing resources.

If all the jobs that needed to be done were being done, including conserving resources and preventing waste, there need be no unemployment, even if there were fewer people needing new housing and commodities.

But the arguments for fearing an ageing population paradoxically include lack of younger workers to support them.

Mind-boggling figures have been thought up by the United Nations Population Division report on 'Replacement Migration' such as that to keep the support ratio of workers to dependents constant, South Korea, for example would need 94 million immigrants per year, 'almost twice its current population, adding up to 5.1 billion by 2050, that is 5/6ths of today's world population'. Immigrants themselves age - and so according to the growth myth, even more immigration would then be needed to support them.

An ageing population can be supported by its working members. Support ratios of workers to the elderly of 4:1 are not a problem for Western countries. The total dependency of old people in nursing homes is only on average 7 months for men and 2 years for women. On average, people require two years of substantial health care before their deaths - regardless of whether they are young or old. The greater problem is youth unemployment, with increasing proportion of younger people who require support and are unemployable for many reasons, from minimal brain damage through drugs and accidents, to inadequate literacy *Draft notes*

FACT SHEET 9. POPULATION GROWTH AND QUALITY OF LIFE

At what stage should a population stop growing because it is making life worse, not better?

A CITY OF 250,000 PEOPLE can have almost everything needed for quality of life – variety of industries and jobs, nice homes, schools, health care, shops, public transport, tradesmen, professions, variety of culture, sports and cultural events, to suit everyone, local government, newspapers, law and order, community spirit and neighborliness, low crime rates, gardens and backyards, parks, scope for innovation and progress, and nearness to food sources and recreational amenities in the countryside.

WHEN DO TOO MANY PEOPLE SPOIL QUALITY OF LIFE?

When there is not enough water, traffic is too congested, people are crowded everywhere, pollution affects health, infrastructure is creaking, not enough comfortable housing, too many people are disaffected and crime is aided by anonymity, only a few can get out to nearby 'unspoiled' uncrowded countryside or the beach, food has to come long-distance, too much good farmland and bushland is lost for ever under housing.

Even the quality of life for animals suffers, with factory-farming that becomes more inhumane in order to feed so many people. Wild-life loses their habitats and more species are driven to extinction.

'TOO MANY PEOPLE' depends upon where. A city like Melbourne in Victoria with under 4 million people in a State of five million, may still be overcrowded by the government's goal to add another million by 2030. Melbourne had the purest, best-tasting drinking water to be found anywhere. As quality of life and freedom is further reduced, governments legislate about drinking recycled sewage, abandoning Melbourne's famous home gardens, and vast sums on water projects requiring more waste of resources. Housing is beyond the reach of most young people, and mortgages can be lifelong. Timber is supplied by logging in catchments - to reduce water quality of water and silt up storages.

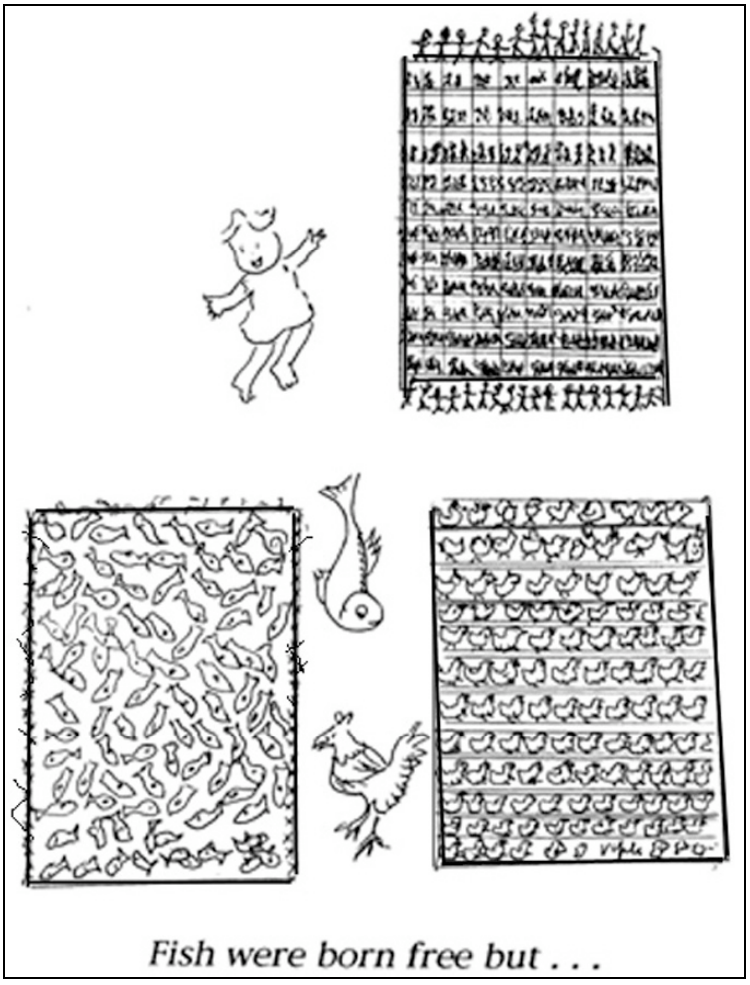
FURTHER GROWTH HAS DOWNSIDES FOR QUALITY OF LIFE.

Water is the most serious problem. Restrictions already reduce quality of life. The sprawling outer areas of cities lack public transport. To reduce sprawl and costs of new infrastructure, pressures are to redevelop existing suburbs for denser housing, destroying liveable homes, and crowding families with insufficient outdoor play-space and recreation. The 'Australian dream' of the quarter-acre block has to be ridiculed as impractical.

With greater population size comes the crime and social problems common to big cities. More anonymity, more alienation and loneliness. More noise, now documented as a serious stress problem. Local councils of excessive size administer their business like small states. Overlarge schools in small grounds prepare children for crowded lives without community.

THE IDEAL SIZE OF CITIES varies according to their available resources. Size does not ensure innovative cities with the richest cultures and contributions to civilisation. Sure, London, New York, Paris, but the worlds' mega slums now as big as countries are not good to live in. Classical Athens, Renaissance Florence and 18th century Edinburgh show how wonderful small cities can be.

See Mike Davis' *'Planet of the Slums'*



Notes for

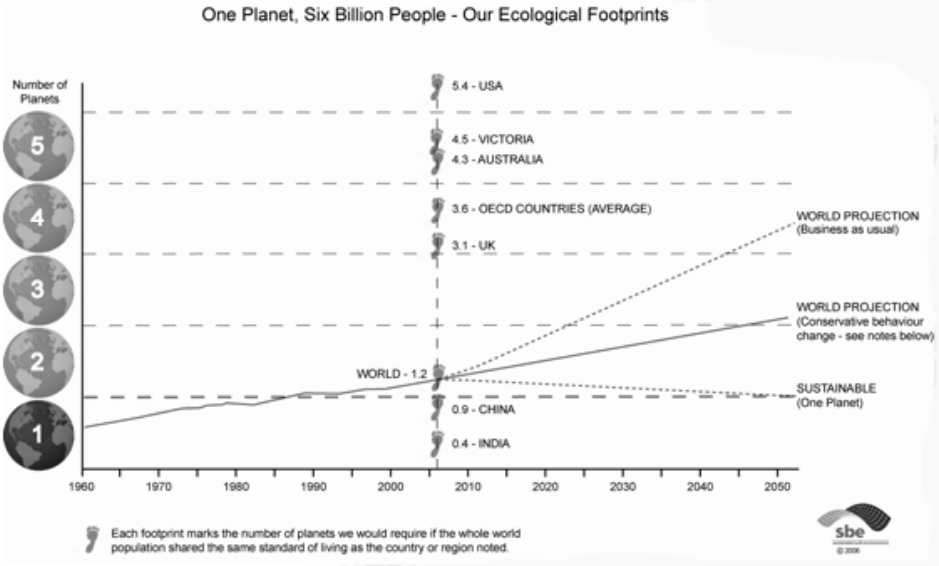
FACT SHEET 10. THE RESOURCE-GUZZLERS AND DEVELOPING COUNTRIES.

The argument is often made that there would be little problem in population growth, carbon emissions, and resource depletion if the Western world stopped its wasteful ways of living to live more at the standard of the undeveloped world.

However, the contrary is the situation. The people of the developing countries naturally want the standard of living and the luxuries of the West too – and as they are more numerous, world population growth will be even more disastrous. India and China are the leaders in this development, even though there are government attempts to reduce the worst effects.

Measure the size of your environmental footprint.

Our Ecological Footprint



DRAFT FACT SHEET 11. HOW CIVILISATIONS HAVE DIED

Some civilisations have met challenges and survived. Most have failed. In Asia, Africa, the Middle East and America, ruins of great cities lie in deserts they often helped to make. Remnants cling in places once fertile.



http://fiveprime.org/hivemind/Tags/civilization

Some civilisations have been destroyed by invaders, but hundreds were weak already, or ruined themselves, or climate change did for them, as in North Africa. Most collapse through wrecking their environments, as populations outgrew the resources available. Examples range from Easter Island and St. Kilda, to Mayan, Nubian, Benin, the Olmecs in Meso-America, series of civilisations from Sumer, Ur and even earlier, in the garden of the Middle-East now desert, and the now Gobi desert of central Asia.

WE CAN DO BETTER, because we can learn to avoid calamities by seeing how other civilisations self-destructed or survived. Some people are not worried about the crises ahead of us. They say that Science or God will save us. They say, humans are clever enough, they will think of a way out. Or we are doomed anyway.

The ancient Greeks thought that civilisations rose and fell on a wheel of fortune, and decline was marked by their own stupidity. '*Whom the gods destroy they first drive mad'*. There are signs of that today.

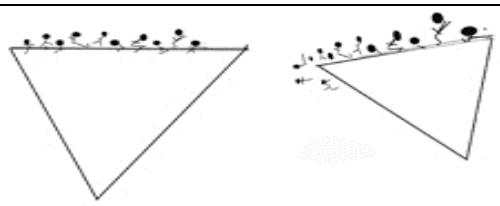
The dynasties of Chinese history rose and fell in cycles, as low population pressures grew until overpopulation caused population crises with huge famines and wars, as the people multiplied beyond the resources available. Then the series of spikes and collapses began again. The current up-rising spike is the greatest and most serious yet.

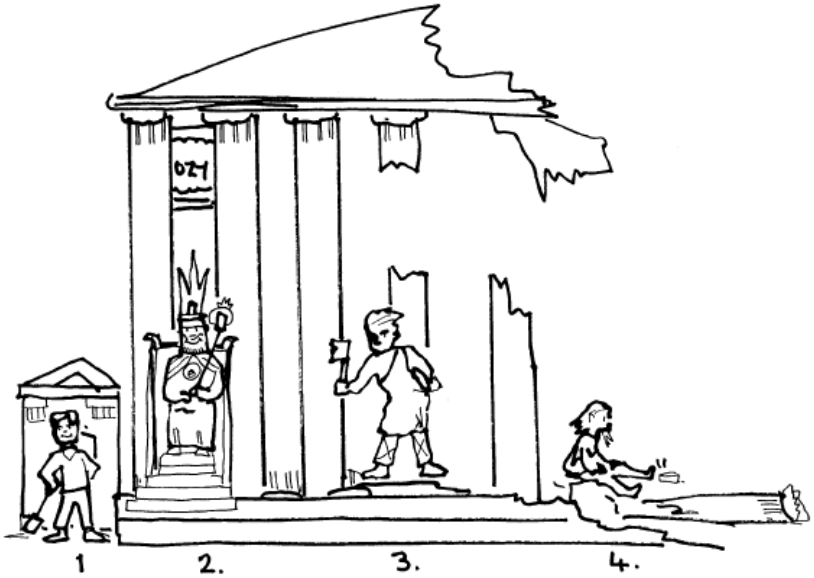
History may be a series of challenges. Civilisations fail or succeed according to how they respond. (Arnold Toynbee's survey). It can be seen as a series of population cycles and crises, as civilizations fail or stagger through crises when populations outgrow or destroy their resources (Claire & WMS Russell, 1990.) Climate changes may have assisted, and even been instigated by humans deforesting.

- HUNTER-GATHERERS could kill off the animals they relied on. The Clovis People of North America, around 10,000 years ago abruptly vanish from the archaeological record. No one knows why, but their disappearance coincides with the mass extinction of Ice Age big-game animals. Did the Clovis people over-hunt these mammals into extinction or did over-hunting eliminate a "keystone species" such as the mammoths or mastodon, leading to environmental collapse and a more general extinction? Did Australian aboriginals kill off their mega fauna, or Eurasian hunters kill off the mammoths?
- SWIDDEN FARMERS make and farm a clearing in forests or plains, and move on to make another when that soil is exhausted. They can survive as long as they do not become too populous so that the forests have no chance to revive. Farmers like the Mayans appear to have exhausted their soils, and the population withered away.

- IRRIGATION has enabled populations to increase dramatically, but then salination and increasing drought may leave them high and dry, as in civilisations of the Euphrates basin, and the Hohokam of North America.
- GLOBAL CRISIS. In the past, a civilisation could collapse in one area, and the rest of the world was unaffected. But today billions of population survive by globalising – importing resources when we run short. Many countries cannot grow their own food. As global resources run short, extreme and even suicidal measures may be resorted to – such as biofuels to make up for oil shortages that deplete both food resources and the soils needed to grow them. Even a society reinvigorated by cheap new energy sources will eventually face the problem of diminishing returns once more (Joseph Tainter on the *Collapse of Complex Societies*, 1988.)And wars over resources now destroy everything, not just soldiers.

See http://www.newscientist.com/article/mg19826501.500-why-the-demise-of-civilisation-may-be-inevitable.htm

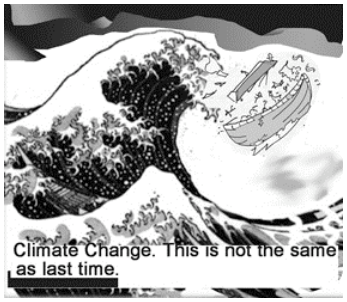
	Our inverted pyramid may have a tipping point



How a civilisation can rise and fall

Draft FACT SHEET 12. POPULATION GROWTH and CLIMATE CHANGE, POLLUTION, WARS, DISEASES and other threats to the planet

You'd wonder why anyone bothers with thriller block-busters, horror stories or appalling computer games when it's all there for real around them.



Climate change – not the same as last time

WHAT ARE THE CHALLENGES that are made worse by increasing world population from 6 billion now to 9 billion by 2050? See the other Fact Sheets:

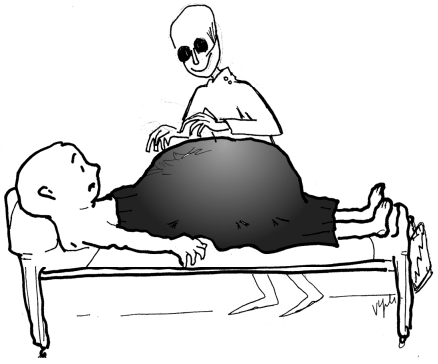
- WATER shortages, especially of clean water.
- FOOD. Biophysical limits of food production – already past sustainability, and using up resources for the future
- LIVABLE LAND needed for more people. More land is desertifying and rising sea-levels submerge coasts – while growing populations require more earth to live on, not less.
- CLIMATE CHANGES with worse storms, winds, droughts, fires and floods, and higher temperatures will affect more people with disaster emergencies and poorer quality of life. Warmer seas will affect marine life and important currents like the Gulf Stream
- POLLUTIONS. Carbon emissions - more people mean more carbon dioxide emissions, green house effects and climate changes. Smoke from cars and industry pollutes the air including carbon dioxide emissions. Nitrogen - humans are adding about 130 to 150 million tons over the 90 to 150 tons that are produced by the nitrogen cycle. Excess nitrogen causes coastal waters and estuaries to grow toxic algae, killing fish and trapping the solar heat in the air. Pollutants of other chemicals and metals rare released into the air, soils and sewage. Many, like lead and mercury, are dangerous for children's healthy development.
- METHANE is produced by gases released by cattle, termite mounds and the bottom of rice paddies. Raising more cattle, cutting more tropical forests (increasing the amount of termites) and growing more rice makes poisonous methane concentration in the air almost double from160,000 years ago.
- DE-FORESTATION and its consequences
- WASTE DISPOSAL – an increasing problem for land, sea and air.

- LOSS OF SOIL FERTILITY, spreading deserts and semi-deserts
- ANIMAL EXTINCTIONS – to our own loss too.
- FISH shortages and extinctions
- FERTILE LAND TAKEN for housing, increasing food supply problems, as in China
- LAND COSTS. Economic anomalies that include making the rich richer and the poor more numerous include escalating property prices from increasing demand.
- DISEASES. Globalising and mega slums facilitate spread of new and old diseases for humans, flora and fauna.
- MORE INHUMANE FACTORY-FARMING methods required to provide more protein
- CONSUMER BEHAVIOUR spreading to developing countries. Increasing consumption and despoliation as the huge numbers of poor seek the standard of living of the affluent.
- WARS OVER RESOURCES destroy permanently more resources than they kill people, and kill more civilians than they kill soldiers. Armaments and arms research waste of materials and working lives.
- INCREASED SOCIAL CONFLICT. See Russell & Russell on the psychological stresses of overcrowding for humans as well as animals.
- DEPRESSION, fast becoming the world's second most serious illness, is affected by living in a world of so many apparently insoluble problems, and reduces our power and energy to do anything about them.

There is hardly any challenge ahead which is not made worse by populating the planet to excess with humans. Restraining further growth of populations is more humanitarian and caring for life than just ripping ahead with excess for our own personal interests, ideologies and profits.

FACT SHEET 13 looks at how we could be less helpless.

FACT SHEET 13. POPULATION ACTION - a summing up



"Your growth is not sustainable – I come to operate"

How many people could the earth support, with quality of life, and not endangering the future? Some scientists have recommended that we are already too crowded, and two billion would be happier and safer. \

Could Australia be the best it could be, with present resources, and cutting wasteful consumption, if its population stabilised at twenty million? - And then populations need only increase as more efficient sources of energy and other needs became possible, rather than gambling that they will be.

Our economies can surely adapt to be progressive in quality of life, but not requiring continual growth in waste of resources and climate pollution. These topics need considering.

This FACT SHEET considers ways to stabilise populations humanely and rapidly - and globally, because there are no more empty and fertile lands to spill over into. Nor should anyone have to be an economic refugee.

- A UNITED NATIONS CONVENTION FOR THE RIGHT TO REPRODUCE, as one healthy child each (= two per couple) plus the right for that child to have a decent chance for a healthy and prosperous life. Governments' childcare support is given to those children, encouraging no more. No group can claim this is genocide, and it applies to all.
- NO MORE PRENATAL POLICIES. All nations must abandon policies of financial encouragement of more of their own babies – or global family planning reeks of hypocrisy.
- FAMILY-PLANNING EDUCATION includes general education for all women as the most successful factor in enabling women to choose their family size. It includes contraceptive methods as preferable and available so that abortion is a rare and last resort. Sex education includes learning about love and affection as the basis of the 'best sex' and the foundation of stable relationships in which children are reared.
- MEDIA AND ALL SOURCES OF MEMES AND INFORMATION spread a world-wide message for all work to together against the common dangers to us all. This message must particularly reach those with power who believe that might and arms are their right and that their national (religious or business) interests override all other interests in the world. It must reach the refugees, nomads, forest tribes, the oppressed and the oppressors.

- THE GLOBAL ECONOMIES ADAPT TO GOALS OF SUSTAINABILITY, NOT GROWTH, maintaining enterprise and innovation in responsible production to improve quality life, but no more planned obsolescence or fanning new needs. Changing the ruling motives and goals – for cooperation not just competition, for status from public service not excessive wealth acquisition, for businesses to legally have public benefit as equal with maximising shareholders' profits. There will be jobs for all when everything that needs to be done is done – and that will include preventing and coping with all the disasters and dangers set out in Fact Sheet 12.
- COMMUNITIES ADAPT TO SHARE THEIR CHILDREN'S LIVES, so that children in the smaller families are not isolated, nor the adults missing out from the pleasure of many children.
- LEADERSHIP in action, and inspirational leadership in every country – it is possible.
- ARTISTS AND WRITERS AS VISIONARIES show the visions of what might be, not dystopias. They help to changing present cultures of aggressive masculinity and drugged escapes to more fulfilling criteria of what is a Man, what is adult, and what is pleasure'.
- AND MORE.

Choosing to exercise the better parts of our human nature, not the basest and most short-sighted, is that possible? Everyone can play a part, in every way they can, averting the greatest energy crisis, the crisis of human energy.

- Look around you – you can see already what must be done and what must be stopped. What everyone can do. Turn our innate gambling instinct to good account.