OPTIMUM POPULATION TRUST

PEOPLE, PLANET, ENVIRONMENT

YOUTH QUAKE

Population, fertility and environment in the 21st century

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Contents

OPTIMUM POPULATION TRUST OPT

Founded in 1991, the OPT is an educational charity, think-tank and campaign group that promotes sustainable levels of population for the UK and the planet.

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Summary

The Earth faces a future of rising populations and growing strains on the planet. Whatever else the future holds, significant population increase is inevitable and the current UN forecast of 9.2 billion by 2050 – itself a 40 per cent increase on the 6.7 billion in 2007 – may turn out to be an underestimate. The environmental damage resulting from population increase is already widespread and serious, ranging from climate change to shortages of basic resources such as food and water. By 2050, humanity is likely to require the biological capacity of two Earths. Without action, *longages* of humans – the prime cause of all *shortages* of resources – may cause parts of the planet to become uninhabitable, with governments pushed towards coercive population control measures as a regrettable but lesser evil than conflict and suffering.

The planet faces the biggest generation of adolescents and teenagers in its history – a "youthquake" with major social, political and demographic implications, not least the creation of a huge cohort of young urban males who, through frustration and unemployment, even now seek an outlet in violence. They are the engine of future world population growth – tomorrow's parents already born, and in unprecedented numbers.

Together, these challenges demand a response from governments which recognises the important role of human numbers in policy-making. Every country – not merely those in the developing world – would benefit from a national population policy that takes environmental sustainability into account. In the UK this would cover initiatives to reduce teenage pregnancies – including new guidelines for the media – encouragement for parents to "stop at two" children, resistance to calls for an increase in the birth rate and national recognition that continuous population growth is highly undesirable and, ultimately, impossible. Far from panicking about "baby shortages", almost every country can welcome fertility rates at or slightly below replacement level.

Key Points

- The current world population projection of just over 9 billion humans at final population stabilisation is a highly optimistic estimate. Because of poor family planning services and *laissez-faire* attitudes in many parts of the world, the planet may be forced to accommodate many more than this number.
- The Earth faces the largest generation of young people in its history – a "youthquake" of some 1.2 billion people between the ages of 10 and 19, or three billion under the age of 25, many living in the new mega-city slums of the developing world. The "demographic momentum" they generate means global population will continue to grow for decades, even if replacement fertility is achieved. Their access to family planning services is thus crucial to achieving a sustainable population for the planet.
- The 50 poorest countries in the world will more than double in size, from 0.8 billion in 2007 to 1.7 billion in 2050, according to UN projections published in March 2007. Increases in population of this scale and rapidity will wipe out gains in agriculture, education, literacy or healthcare faster than they can be made. Alleviation of poverty by even moderate increases in *per person* wealth, however justified, will have major impacts on climate and the environment because of the sheer numbers involved.
- Developed countries have a much greater global impact because of their far higher *per capita* levels of consumption. On current figures, each new UK birth will be responsible for 35 times more greenhouse gas emissions and associated environmental damage than a new birth in Bangladesh and 160 times more than a birth in Ethiopia. Population growth is not just a problem for the developing world. The condom, the Pill, and the intrauterine device ought to be as powerful symbols for the green movement as the bicycle.
- Compulsion in reproductive health is wrong-headed and has usually proved counter-productive. Yet many people wrongly portray a quantitative concern with human numbers as "intrinsically coercive" of poor people and as automatically excluding other key interventions, such as education and poverty relief. The failure to understand that all these factors are important leads to continued under- resourcing of family planning and may paradoxically force more governments in the future to introduce compulsory birth control.
- An estimated 550,000 women die every year through unsafe induced abortion, pregnancy and childbirth. At least 35 per cent of these are killed by pregnancies they would have avoided if contraception had been available.
- About 350 million couples worldwide – a third of all couples of reproductive age – still lack access to a full range of family planning services, to enable them to space their children or limit the size of their families. This number is expected to grow by 40 per cent in the next 15 years.
- There is a vast unmet need for contraception and reproductive health services, evidenced by the fact that about 50 million of the roughly 190 million pregnancies worldwide each year end in abortions.
- Fertility regulation is often stigmatised as being "anti-life" yet in reality it saves the lives of both mothers and children. Family planning "could bring more benefits to more people at less cost than any other single technology now available to the human race" *(James Grant, UNICEF Annual Report 1992)*.
- Development agencies ignore the role of population increase in maintaining poverty. NGOs often treat increasing numbers passively, as a demographic "given" that has to be coped with through development. In effect, they are guilty of "predict and provide" on a global scale. Yet education and increasing wealth by themselves have virtually no impact on the use of contraception or on family size.
- The key to successful family planning is removal of the barriers to women's control over their own fertility. Development alone is not the best contraceptive – a contraceptive is the best contraceptive.

- Voluntary family planning policies can bring dramatic results. A voluntary "two-child" population policy in Iran succeeded in halving fertility in eight years, as fast a rate of decrease as that of China, whose "one-child" policy began in 1980.
- In extreme situations, where states or regions may be almost uninhabitable through environmental damage, one-child policies may become unavoidable. However, such policies should only be introduced as a last resort and after full and democratic consultation. Generally one-child policies are unnecessary, counter-productive and liable to discount human rights.
- Only a third of the US $17 billion annual spend that was pledged at the 1994 International Conference on Population and Development (ICPD) in Cairo on reproductive health by 2000 has been forthcoming. Less than 10 per cent of the $5–6 billion donated has been used for contraception.
- Teenage mothers suffer multiple disadvantages. A teenage mother is more likely to drop out of school, to be unqualified, unemployed or low-paid, to live in poor housing and on welfare, and to suffer depression.
- The United States and Russian Federation teenage birth rates of above 45 (per 1,000 girls aged 15-19) are the highest in the developed world – and about four times the European Union average. The UK has the highest teenage birth rate in Europe.
- The drive to combat teenage pregnancy in the UK is losing momentum. Despite the establishment of the Teenage Pregnancy Unit and the setting of local conception reduction targets of 40-60 per cent from 1999 levels by 2010, the implementation of initiatives has been fragmentary and uneven. The arrival of primary care trusts and the absence of ring-fenced funding has led to inadequate resourcing.
- The government's teenage conception reduction targets may well be unachievable without a major increase in the uptake of long-acting contraceptive methods, such as implants, injections and intrauterine devices. These should be more readily available to young people, since they have the virtue of "forgettability", crucial when alcohol or other drugs are involved. All are more effective than the contraceptive pill.
- A "stop at two" children or "one child less" guideline for couples in the UK should be introduced by the government, promoted in schools and in the media and backed by environmental groups. This should be promoted as part of a greener lifestyle and as an example to couples worldwide, encouraging them to limit their own family size to protect the environment.
- Pro-natalist pressures – for example, calls to increase the birth rate to improve the age dependency ratio – should be resisted. More children now means yet more pensioners 60-70 years from now. The effect of this is to increase further the total population of the country while not, in the long term, improving the dependency ratio of workers to non-workers.
- New guidelines should be introduced for the portrayal of sex and fertility issues by broadcasters, print media and internet service providers. These could be drawn up through consultation with industry, government, health agencies and relevant NGOs and would be aimed at countering the glamorisation of sex and motherhood among vulnerable groups, and stressing personal and social responsibility.
- A major new study is needed of the "perverse incentives" that lead some teenage girls to become pregnant. Some teens, particularly in areas of significant deprivation, appear to decide that the economic advantages to them of having a baby – related to housing, for example – outweigh any disadvantages. There is an urgent need for evidence-based policies that do not have adverse effects, especially on the children involved.
- The term "sex education" should be abandoned, because it omits the crucial word "relationships", often leading opponents to interpret it as meaning "educating" or encouraging young people to have sex. The term "sex and relationships education" (SRE) should always be used, as a matter of policy.

The World

Humanity is approaching a crisis point with respect to the interlocking issues of population, environment and development.[1]

Why isn't everyone as scared as we are?[2]

Whatever your cause, it is a lost cause, unless we limit population growth. [2]

One simply feels convinced that someone – the government or God – will somehow stop it, before it disturbs our comfortable and settled lives… It takes a long time to realise that as far as looking after the future of humankind and the earth is concerned, there is no-one at the controls; but once achieved, the realisation is remarkably disquieting.[3]

The biggest cause of climate change is climate changers: human beings. Deciding to stop at two children, or at least to have one child less, is the simplest, quickest and most significant thing any of us could do to leave a sustainable and habitable planet for our children and grandchildren.[4]

Population: *People feel they can't talk about it – but there is a large unmet need for smaller family size – i.e. it is do-able, amenable to change.*[5]

Consumption: *People can talk about it – but there is no unmet need for reducing consumption! [It's] more difficult to change.*[5]

Youthquake

The current world population projection of 9–10 billion humans at final population stabilisation is a variable, not a "given". It is a highly optimistic estimate. With widespread and continuing *laissez-faire* attitudes to reproductive health care (RHC), and hence no universal voluntary access by all couples (especially young people) to birth planning services, the planet may be forced to accommodate even more people, short of a catastrophic increase in death rates. In the shorter timescale of the next 40 years an increase to about 9 billion is only to be expected, because tomorrow's parents are already born and, even if their fertility is only at replacement level, their sheer numbers will lead to many added births.

Figure 1 shows the remarkable similarity between the pattern, not the timing, of world population growth and that of the UK. (Issues relating to UK fertility are dealt with later in this report.) According to the UN Population Fund (UNFPA) and the Population Reference Bureau[6] (*www.prb.org/pdf06/06WorldDataSheet.pdf*), almost half of the world's people are under the age of 25. This includes the largest ever generation of adolescents, a "youthquake" of some 1.2 billion people between the ages of 10 and 19, the vast majority of whom – 87 per cent – live in the developing world. How many youngsters thronging the slums of the world's mega-cities will be able, as they pass puberty and enter the "sexual market-place", to access the sex and relationships education and contraceptive services they need and deserve?

This vast group of young upcoming parents causes the sustained demographic momentum we are witnessing today, despite reduced birth rates in the majority of countries. This is also the basis for a vast elderly generation towards the end of this century.

Figure 1: Population growth: world and UK

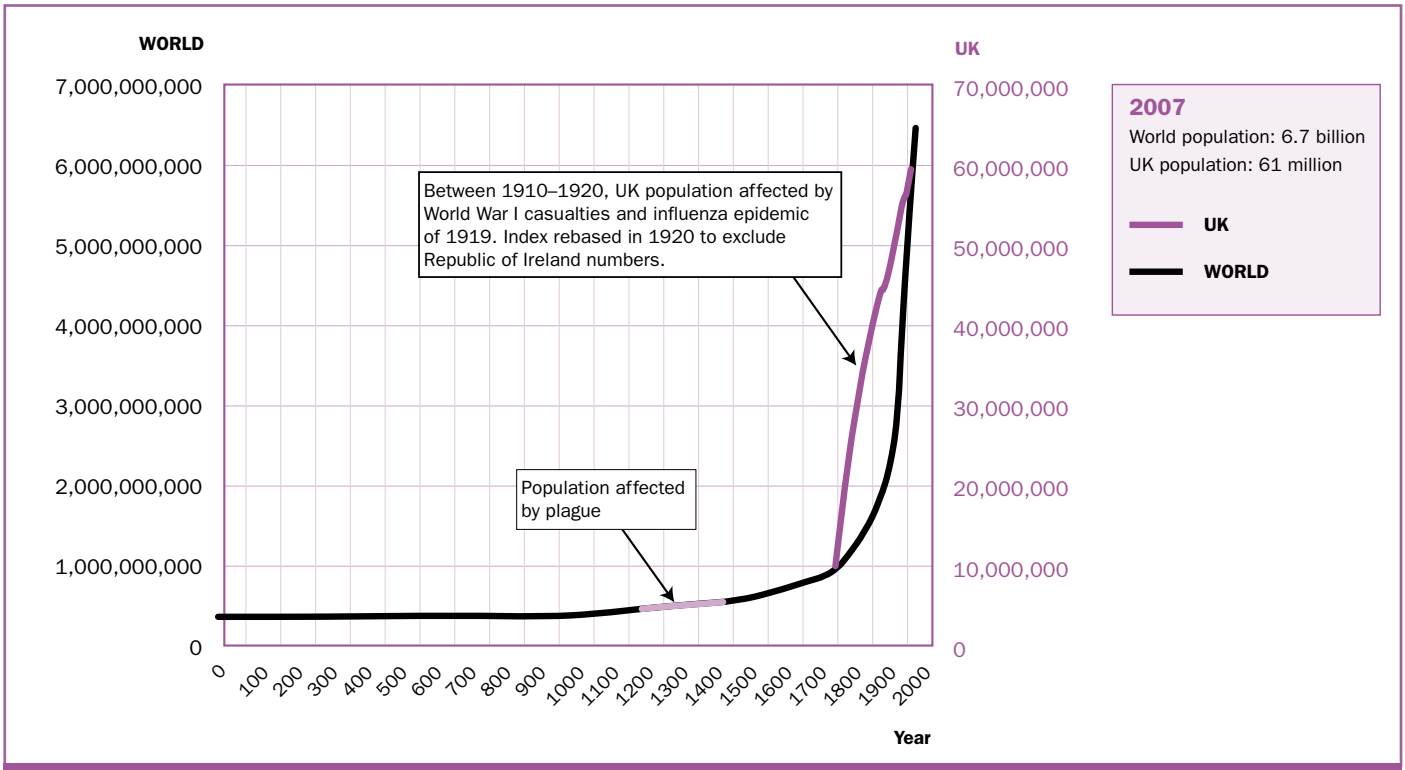


Chart by Hugh Thompson

Consumption

What will be the impact of an extra 2.5 billion people on the planet in 2050? The average ecological footprint (the ecological impact of humanity on the Earth) is 2.2 hectares per person, while there are only 1.8 hectares of land available per person to provide natural resources from the planet. On these measures, humans are on the latest (2003) data currently consuming about 25 per cent more natural resources than the Earth can produce.

The *IUCN/WWF Living Planet Report 2006*[7] *(see www.footprintnetwork.org/newsletters/gfn_blast_0610.html)* warns that, based on what it terms a "moderate" business-as-usual scenario, with demographic growth leading to a population of 9.1 billion people by 2050, relatively slow increases in carbon dioxide emissions, and the continuation of current trends in biological resource consumption, humanity will be using the biological capacity of two Earths in 2050. Given that another habitable planet is not available, might humanity have to suffer the kind of death-dictated control to achieve stabilisation, or reduction by a "population crash" – a massive cull through violence, disease, starvation or natural disasters – which biology dictates for all other species when their numbers exceed the limits of their environment's carrying capacity?

The projected requirement for more than two Earths in 2050 does not take into account the need to raise the world's least "affluent" out of poverty. In 2007 53 per cent of the world's people – some 3.5 billion – existed on less than $2 per day. For them a rise in living standards *along with inevitable increased consumption* is absolutely essential. The result, however, will be additional climate change, habitat destruction and the extinction of tens of thousands of plant and animal species. Populations of terrestrial, freshwater and marine species fell by an average 40 per cent between 1970 and 2000, and already a staggering 97 per cent of the vertebrate biomass is human flesh plus the flesh of our cows, pigs, sheep and other domestic animals, leaving only three per cent for all wild species.[8]

Among industrialised nations, only the USA, the world's largest economy and the third most populous country after China and India, is experiencing significant growth in human numbers. Its population is expected to climb from 300 million people in 2006 to 420 million in 2050.[6] Already the "footprint" of an average North American is double that of a European, and seven times that of the average Asian or African. With US consumption rates so high – the USA being already responsible for 25 per cent of world CO_2 emissions – a massive

Definitions:

TFR (total fertility rate). *Projected mean total number of children born per average woman in her lifetime on current demographic assumptions – in shorthand, "average family size".*

Unmet need. *Proportion of women who wish (in survey data) to delay or terminate childbearing but who are not using contraception.*

Mean family size preference. *Average desired number of children (survey data), women often preferring fewer than men.*

Population momentum. *Tendency for population growth to continue for many decades beyond the time that replacement-level fertility has been achieved because earlier high birth rates have led to a "bulge" of children and young people who have yet to become parents.*

Demographic dividend. *As a generation provides widespread access to family planning and the birth rate begins to fall, a country is left with a low dependency ratio i.e. many working age people paying taxes and relatively fewer young for them to provide for. This is known as the demographic bonus or dividend because with organisation and investment, it can be the fuel for intense economic growth and prosperity.*

increase in its population does not bode well for the environment. Population growth, therefore, should not be viewed as a problem to be tackled solely by the developing world. In both developed and developing worlds, the condom, the Pill, and the intrauterine device ought to be seen as symbols of a green lifestyle just as much as the bicycle.[9]

Voluntarism, coercion and mortality

Most countries in the densely-populated and over-consuming minority "North" would themselves benefit from adopting a (lower) population policy. Yet many people continue to portray "any quantitative concern for population as necessarily and intrinsically coercive"[10] of poor people. This is not so. Compulsion in reproductive health is wrong-headed, has usually proved counter-productive, and need not be contemplated when so many societies are not yet adequately taking the voluntary measures. Primarily these would remove the many obstacles (see below), usually caused directly or indirectly by the male gender, and so "ensure that any woman on the planet who wants a modern contraceptive method, to be used tonight by herself or her partner, has easy access to it".[9]

The continued inadequate resourcing of the voluntary approach is arguably the best way to ensure that many more future governments will be forced, as they will then see it, through population pressure, to legislate for coercive birth control – as occurred in China in the early 1980s. Moreoever, *not* offering so many women the choice of available and accessible contraception is by default coercive, effectively causing many *compulsory* pregnancies worldwide.

Other people distrust this concern with population quantity as inevitably exclusive of other key interventions: social justice – relieving poverty and gender discrimination; education, especially for the empowerment of women; or improving child survival. This emphatically does not need to be true – the approach should be not "either-or" but "both-and".

In developed countries research has led to an increasingly wide choice of contraceptive methods. Worldwide, however, nearly 350 million couples, more than a third of all couples, still lack access to a full range of family planning services to enable them to space their children or limit the size of their families, and this number is expected to grow by 40 per cent in the next 15 years.[11] Many for cultural and "social security" reasons still want large families, yet large-scale surveys have shown that at least 50 per cent wish to prevent another pregnancy. "Every minute in the world 380 women become pregnant, and of those 190 did not plan to do so".[11] We are failing to push at the open door marked "contraception".

It's also the case that women cannot die from a pregnancy they don't have. Yet every minute one woman dies through unsafe induced abortion, pregnancy or childbirth, totalling over half a million per annum[12] (estimates vary because the data are hard to collect). The figures suggest that at least 35 per cent of those women are being killed by pregnancies they would have avoided, if they had had the contraceptive choices women in the North take for granted.[12]

Abortion

The above figures on unwanted pregnancy suggest a vast unmet need for the provision of contraception and reproductive health services. There is more clear evidence of this in the fact that about 50 million of the roughly 190 million conceptions worldwide each year end in abortions. Up to half of these procedures are clandestine, performed under unsafe conditions, and around 68,000 women die from complications of unsafe abortions each year – almost all in developing countries.

The majority in the international community has agreed that reproductive choice is a basic human right. But, as the UNFPA rightly says, "without access to relevant information and high-quality services, that right cannot be exercised". The opponents of international family planning, such as the Bush administration in the US (see box on *The global gag rule*) thus effectively cause many abortions – although neither they nor their supporters are favour of abortion as a means of family planning. Indeed support for high-quality services in contraception and sterilisation – with the goal that, in the words of the slogan, abortion should be "legal, safe, and rare" – is virtually universal.

Continuing pregnancies

All women would benefit from having realistic choices to enable them to control their fertility, but this applies above all to those having the most dangerous pregnancies – dangerous both for them and for their babies. These are the "four toos", those pregnancies that occur:

- Too young – just post puberty.
- Too old – before the menopause.
- Too many – more than the family's resources can provide for.
- Too often: if babies are spaced by less than 18 months, this trebles infant mortality compared with a 36 month interval[11] – as well as risking the mother's health.

Regardless of concerns for the planet, reproductive health care saves lives, the lives of millions of women and their offspring. It is also highly cost-effective for governments. A USAID study in 1994 showed that for each birth averted, at an outlay of 64 Egyptian pounds, there would be a saving for Egypt of £E1,250 per five-year primary school course – a 20-fold benefit, before even factoring in the savings on health or housing.[13]

UNICEF has concluded that "family planning could bring more benefits to more people at less cost than any other single technology now available to the human race" *(James Grant, UNICEF Annual Report 1992).* It is thus something of a paradox that fertility regulation is so often stigmatised as "anti-life"– indeed is widely treated as a taboo subject.

Alleviating poverty

Halving extreme poverty between 1990 and 2005 is the first of the eight Millennium Development Goals (MDGs) set by the UN in 2000. In 2006 the UK's All Party Parliamentary Group on Population, Development and Reproductive Health examined the impact of population growth on the MDGs and in its report *Return of the Population Growth Factor*[12] concluded: "The evidence is overwhelming: the MDGs are difficult or impossible to achieve with the current levels of population growth in the least developed countries and regions" – a conclusion in line with most of the arguments advanced in the present report (see www.appg-popdevrh.org.uk).

As already stated, more than half the world's population currently struggles to survive on less than $2 a day, with multiple deprivations, bad

The global gag rule

First introduced in 1984 and reintroduced by President George W. Bush in 2001, the Global Gag Rule (also known as the Mexico City Policy) puts non-governmental organisations outside the United States in an untenable position, forcing them to choose between carrying out their work safeguarding the health and rights of women, or losing their funding from the United States. The Gag Rule prohibits organisations in receipt of US funds from using their own money to provide abortion information, services and care, or even discussing abortion or criticising unsafe abortion. It even prevents organisations from working on these issues at the request of their own governments.[12]

Table 1: Ethiopia – Going backwards?

	1985	2005	2015
Population (million)	44	69	94
Births per woman	6.5	6.1	
Life expectancy	47	45.5	
Pregnancy-related deaths (per 100,000 live births)	870	850	
Annual income per person (GDP) ($)	130	90	
External debt ($)	2590m	7151m	
Official development aid received ($)	715m	1306.7m	
Population in 2005 already needing permanent food aid[12]		8m	

According to the UN, the carrying capacity (arable land needed to support the population on a minimum diet) of farmland in Ethiopia was exceeded in 1982.

Ethiopia's armed forces total 253,000; UK's armed forces total 210,000.

Table based on UNDP data and adapted from: *Ethiopia: 20 years on from Live Aid,* Eric McGraw, *Inside Time*, No. 73, July 2005

sanitation and poor health – all the worse for women because of gender inequality and abuse. Population growth increases, yet is also increased by, poverty – two apparently contradictory statements that are in reality both true.

Poverty is increased by population growth. It is difficult for a resource-poor country with rapid population growth to reduce poverty, even if the economic "cake" is growing, because each slice must continually be divided between ever more individuals. The 0.9 billion increase in population forecast for the 50 poorest countries by 2050 will wipe out gains faster than they can be made, whether in agriculture, healthcare, education or basic literacy. For example, an extra two million teachers are needed in the world each year just to educate the new arrivals.[12]

Yet it is also undeniable that **population growth is increased by poverty.** In rural poverty, reduction of family size appears disadvantageous – as the Chinese saying has it, "every mouth has two hands". The labour of each new child in the family is welcomed, as a form of social security for sickness and old age. High child mortality also tends, unsurprisingly, to reduce interest in birth planning until a relatively high average family size is achieved. This scenario tends to be emphasised by development agencies, which ignore the way population growth perpetuates poverty by increasing the number of individuals to share the resources – notably the basic resources of land and water – available to each family or country. Often NGOs view increasing numbers passively, as a demographic fact that just has to be coped with by development – in effect, "predict and provide" on a global scale.

Since both these statements are true, in combination a vicious circle is created, reinforced by theories that link economic development to reduced family size – notably the demographic transition.

The standard economic demand-side paradigm focuses on increasing *per person* prosperity. Those who believe that this "demographic transition" is the only way a country lowers its family size maintain that as *per capita* wealth increases and

Family planning and Post-It™ notes

The availability of a new product together with accurate publicity about it creates consumer demand. In a key paper[14] Martha Campbell highlights the analogy with normal consumer behaviour – what happens when a consumer becomes aware of a new product, perhaps before they have fully recognised a need for it. Post-It™ notes come into this category – a product consumers did not know they wanted until they appeared. Similarly, women in Rwanda or Congo start from a position that the number of children they have is "up to God" – and their husbands. They cannot know reversible contraception exists as an option or how much they would wish to use it until it is realistically available and accessible.[15]

"For 40 years we have been asking, in surveys and one-on-one anthropological investigations in sub-Saharan Africa… whether parents used contraception or worried about the inability to control family size. The answers have been the same. The parents had not practised birth control because they had no access to services. They had never contemplated restricting family size ***because without the methods for doing so, it was unimaginable"*** [16] *(emphasis added).*

"In many of today's countries with persistently high fertility, contraceptive commodities are in short supply, the extent and range of barriers to their use are not yet well understood by governments, and misinformation is often stifling demand in the lowest resource settings… it should not be surprising that demand for contraception changes when correct information arrives with the needed technologies – in keeping with normal consumer behaviour."[14]

more citizens, particularly women, are educated, so child survival improves, the perceived costs of children rise and the "social security" advantages of having more children are reduced. Women, it is hoped, then find ways to contracept. Family planning provision, the argument goes, may thus take a back seat until that point.

But what if poverty is *not* relieved? One might wait then endlessly for the prosperity-induced change in women's average family size preference that the classical demographic transition model depends upon. Indeed, while waiting, a country's wealth *per capita* tends to go *down,* as shown clearly in Table 1 for just one example, Ethiopia. The vicious circle needs to be broken, primarily by the removal of fertility control barriers to women.

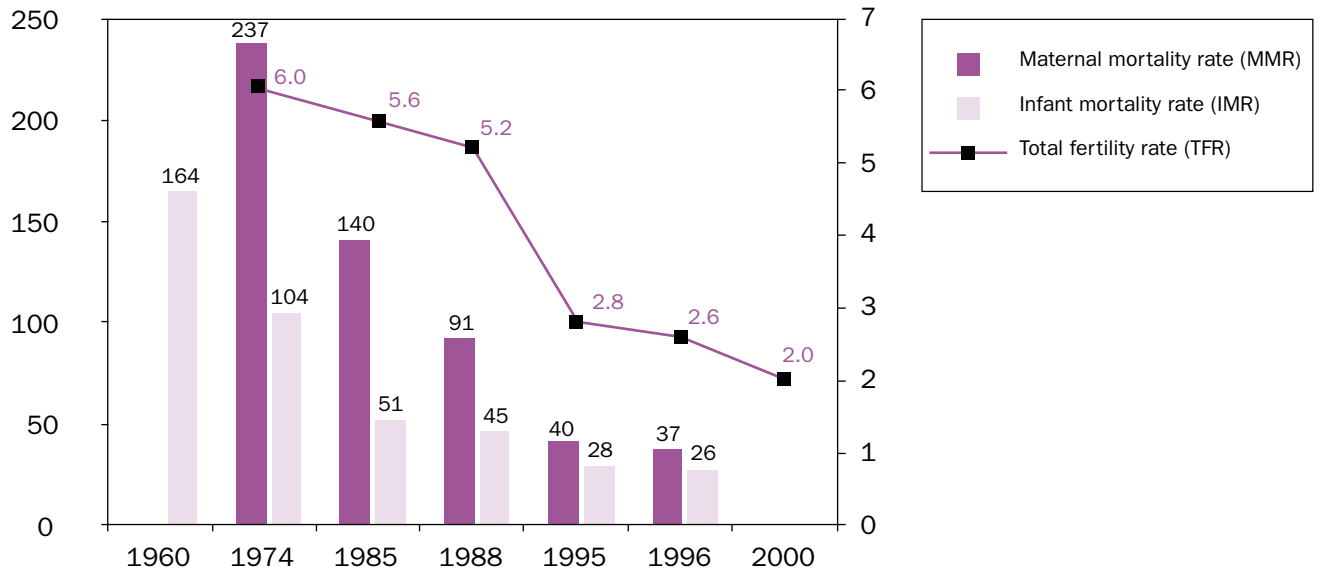
An assumption of the standard demographic transition model is that in high fertility countries women want the large families they end up having. But much evidence shows this is not so. Almost no women anywhere want the biological maximum of 10 or more. Frequent coitus is the norm, not necessarily higher than in developed countries, so all babies above the number preferred have to be actively *prevented*. The crucial differences that separate high fertility countries from low fertility countries are:

- a fatalism about children arriving ("it is God's will")
- a lack of the understanding – which comes through education and the arrival with it of correct information (see box on *Family Planning and Post-It™ notes*) – that there is any realistic option that babies might come "through choice not chance" and
- simple lack of access to contraceptives.

Many developing countries have reduced their total fertility rate (TFR) – their "average family size" – to close to two – and have done so about as quickly as China, but without the coercion that exists in China. They include Costa Rica, Cuba, Iran, South Korea, Mexico, Morocco, Sri Lanka, Taiwan, Thailand, Tunisia, Vietnam and – surprisingly, perhaps – South India. These low-fertility "success stories" often involve vastly different developing countries or regions but have one factor in common. Their governments recognised the population-poverty connection and took steps to remove the barriers to fertility planning.

Studies of such very different locations which have successfully lowered their TFR show that whatever else applies, including changes in prosperity, the key requirement – which can also be

Figure 2: Maternal mortality, infant mortality and total fertility rates in Iran, 1960–2000



NB Left vertical axis. Numbers are: per ***100,000 maternities*** (darker bars) or per ***1000 deliveries*** (lighter bars)
Source: ***MOHME: Ministry of Health and Medical Education,*** **Iran**

IRAN succeeded in halving its TFR in just eight years, from a family size of 5.2 children in 1988 to 2.6 in 1996. This was through a conscious government decision in 1987, after a census, to reduce the country's rapid population growth rate in order to aid its development. Iran's reproductive health success story occurred in part through the removal of obstacles to women choosing to control their fertility, including perceived religious obstacles through Islam, which Iran's own religious scholars issued edicts or ***fatwas*** *to refute. A second key factor was ensuring an efficient supply chain of a good range of contraceptives through a countrywide network of "health houses". Importantly, this was a voluntary "two-child" population policy, yet the rate of decrease in Iran's TFR was just as fast as that of China, whose "one-child" policy began in 1980. (See Figure 2)*

implemented much more quickly – is the removal of barriers to contraception. These barriers are widespread and include simple lack of access to the contraceptive methods themselves, ignorance and misinformation, some of it deliberate – for example, exaggerating the risks of a method. When these barriers are removed, through education and good use of the media, and contraceptives become easy to obtain, education and *per capita* wealth have virtually no extra impact on the use of contraception or family size. The chances of per-person prosperity increasing are also much improved, since there are fewer persons to share in the country's wealth. This is the demographic dividend.[12]

Removing the barriers and offering women choices to control their own fertility, as surveys[12] show is already desired by many, seems in many countries to have kick-started a virtuous spiral of fewer babies, improved survival because of better spacing, more wealth *per capita* in each family, more acceptance of smaller families and more desire for and use of voluntary birth control. This is a situation in which everybody wins, yet the majority of development NGOs still refuse to acknowledge it.

Thus the old slogan "development is the best contraceptive" is out-of-date – in reality a contraceptive is the best contraceptive. The vicious circle of population growth and poverty

can be broken, without coercion. International aid, therefore, needs to include – much more commonly as part of any package – comprehensive, affordable and fully accessible birth planning services, so that ultimately no one who wishes to control their fertility is denied the means to do so. This must include well-targeted provision, along with sex and relationships education, for the young women in the world's burgeoning slums who comprise the main engine of future world population growth.

AIDS and family planning

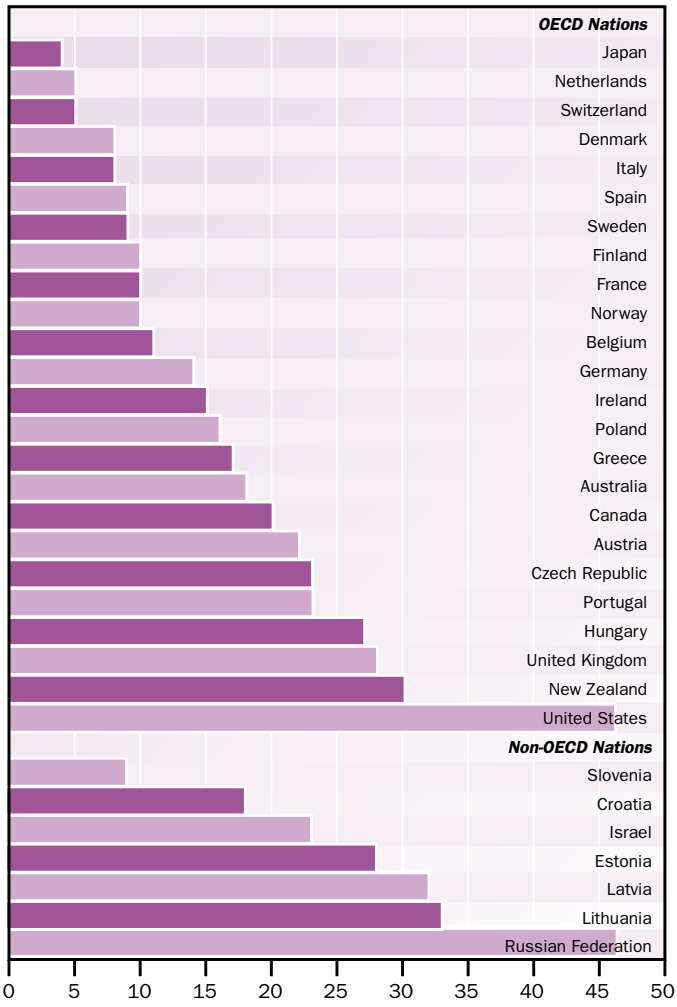
Worldwide, over 40 million adults and children are living with HIV/AIDS (2007 estimate). The 20-year action plan agreed by the 179 participating countries at the 1994 International Conference on Population and Development (ICPD) in Cairo promised to increase annual spending on reproductive health care and education to US $17 billion by 2000. This annual sum was intended to include contraception and all relevant care for HIV/AIDS. Donor nations pledged to provide one-third of the total investment, while developing countries promised to provide the rest.

However, while aid levels have increased moderately, donors would still need to triple their giving to meet ICPD goals. No more than about $5-6 billion is currently forthcoming from the international community – and because of the perceived greater urgency and expense of HIV/AIDS services, less than 10 per cent of this sum is available for establishing and maintaining an adequate supply chain of contraceptives for all who wish to use them. HIV/AIDS work, especially in prevention, must of course be fully funded; however, this should be additional to comprehensive resourcing of international family planning. Indeed, the devastation caused by AIDS is a central argument for prevention through good comprehensive "joined-up" reproductive and sexual health care. Over and above the issue of numbers and sustainability, such holistic services should be fully funded in all countries, as a human right and as key interventions for improving the health of women, their partners and their children.[9]

The United Kingdom

Fertility levels in the UK have been below the replacement level for around 30 years. However, even without the effects of inward migration which is currently the main driver of UK population growth, demographic momentum – due to the large numbers of children produced in earlier cohorts (age bands) reaching childbearing years – would have prevented any population decline up to this century. For example, the large numbers of women resulting from the 1960s "baby boom" helped produce a rise in the number of births in the late 1980s and early 1990s (*Population Trends 119, Spring 2005*). The TFR peaked in 1964 at 2.95 children per woman, but this was followed by a rapid fall in the number of births per woman in the 1970s. In 2006 the TFR in the UK was 1.87 children, a rise from the previous year though still below the replacement rate.[17] Around one in five women currently reaching the end of their fertile life are childless, compared to one in 10 women born in the mid-1940s.

Figure 3: The Teenage Fertility rate: births per 1,000 women age 15–19 (2003)



Teenage pregnancies

Births to teenagers, aside from a few that are wanted and planned by young mothers in marriages or truly stable partnerships, have for a long time been a particular problem for the UK, for the OECD (Organisation for Economic Co-operation and Development) countries (Figure 3) and for the world as a whole. Teenage fertility rates in OECD countries vary considerably – from as few as four to as many as 45 births for every 1,000 girls aged 15 to 19. The UK is the third from the bottom of this list (Figure 3) and last among all countries of Western Europe.

Why is the UK doing so poorly? In 2007 UNICEF published a *Report Card* No 7[18] which used for 21 nations of the industrialised world the most recent available indicators that provide an assessment of the lives and well-being of children and young people. These background social considerations are highly relevant, given that there is no shortage of contraception in the UK. UNICEF found that the UK was bottom overall and also in the bottom third of rankings for five out of their six different measures of child welfare: material well-being, health and safety, education, peer and family relationships, behaviours and risks, and young people's own subjective sense of well-being. Specifically and most relevantly for this discussion, the UK had the worst global score for all risk-taking behaviours; for early sexual debut (Figure 4) and for the percentage who reported they had been drunk two or more times by ages 11,13 or 15 (Figure 5). As a marker of contraceptive caution and safer sex, reported condom use at last intercourse was not quite the worst for the UK (Figure 6); but given the potential for answers being given to please the researchers, this was hardly optimal anywhere and is obviously relevant to high unplanned conception rates among the teens of all the countries covered.

Disadvantages

An earlier study *Report Card* No 3 published by the UNICEF Innocenti Research Centre in 2001 showed clearly the later life outcomes of teenage mothers. Teenage maternity causes a wide range of disadvantages for the mother, for her child, for the planet's environment, for society in general, and for taxpayers in particular. "The statistics

Figure 4: Percentage of 15-year-olds who report having had sexual intercourse (2001/2)

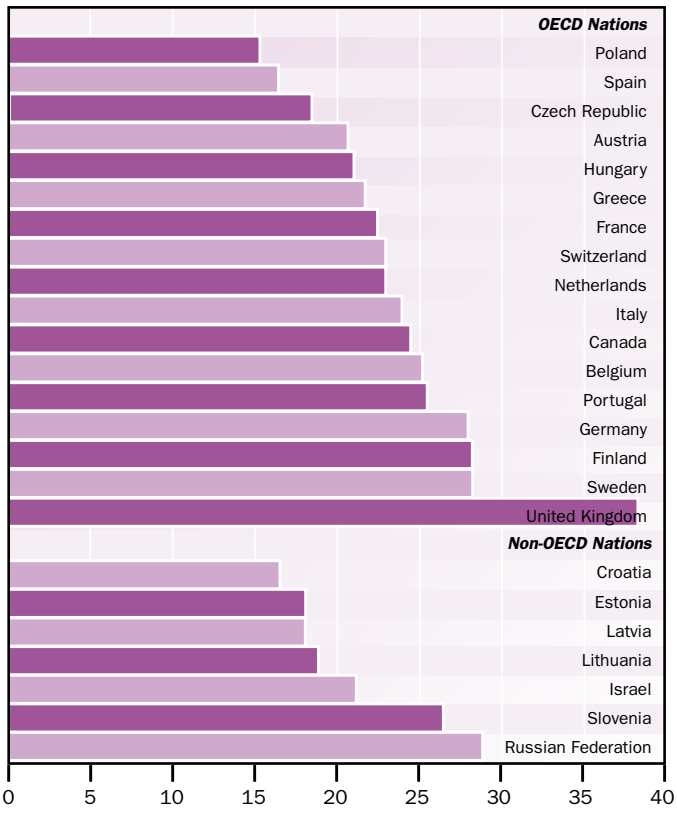


Figure 5: Percentage of students, age 11, 13 and 15 who report having been drunk two or more times (2001/2)

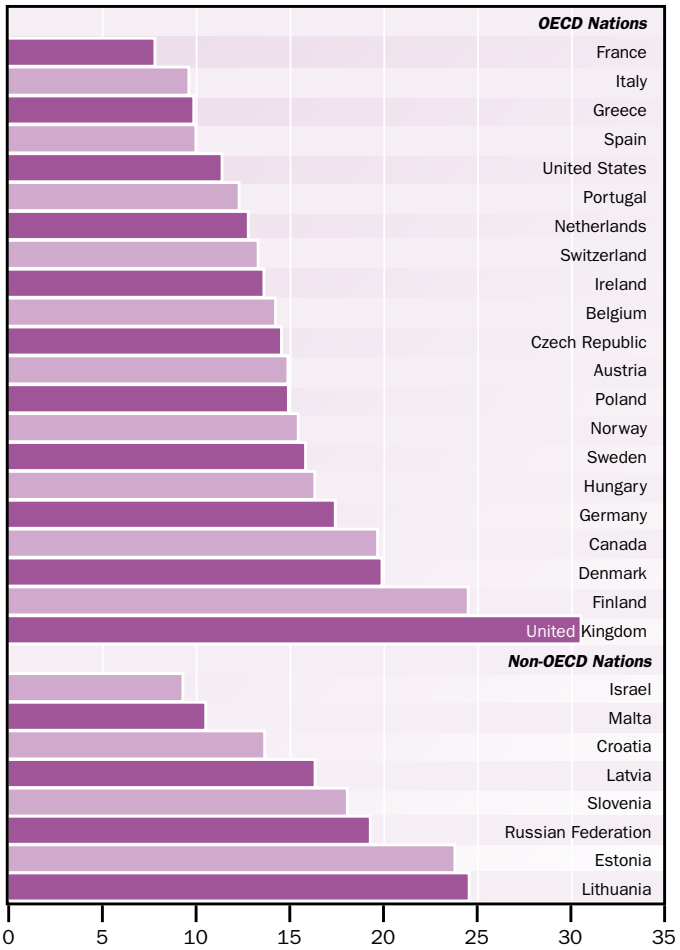
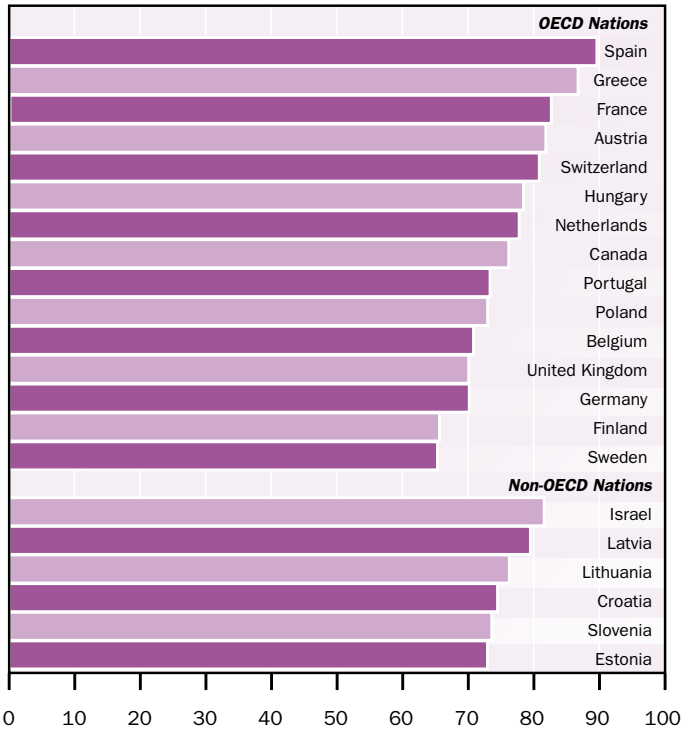


Figure 6: Percentage of 15-year-olds who used a condom during their last sexual intercourse (2001/2)



suggest that a teenage mother is more likely to drop out of school, to have no or low qualifications, to be unemployed or low-paid, to live in poor housing conditions, to suffer from depression, and to live on welfare".[19]

The norm to which most young people everywhere would probably aspire – if they got round to thinking about it – is, according to UNICEF in their 2007 report:

> *"an extended education, a career, a two-income household, delayed childbearing and a small family. And it is in this context that teenage pregnancy has become a significant problem: giving birth at too young an age is now associated with wide-ranging disadvantage for both mother and child – including a greater likelihood of dropping out of school, of having no or low qualifications, of being unemployed or low-paid, and of living in poor housing conditions. But as always, association is not the same as cause. Many girls who give birth in their teens have themselves grown up with the kind of poverty and disadvantage that would be likely to have negative consequences whether or not they wait until they are in their twenties before having children. Becoming*

A tale of two teenagers

Teenager one is growing up in relative affluence. She is doing well at school, has reasonable expectations of higher education and a rewarding career, and is surrounded by friends and family who have similarly high expectations. If she decides to have sex she knows about the risks and has the kind of relationship that allows her to discuss contraception with her partner. She is unlikely to have unprotected sex in the first place but if she does she will know about and use emergency contraception – and if, despite everything, she finds herself pregnant, she will feel that having a baby would change her life significantly and for the worse.

Teenager two has grown up in relative poverty. She sees herself as a failure at school and has little hope of further education or anything other than an unskilled and low-paid job. If she has sex, it may well be opportunistic, unprotected and unwanted. She knows little about contraception, and does not feel able to discuss it with her partner or to insist on his using a condom. If she becomes pregnant she won't seek or receive help, and won't have an abortion. Teenager two is also unhappy at home and desperate to find a way of getting out and starting life on her own or with her partner (though sadly her partner will no longer be around). She is vaguely aware that if she has the baby she will receive some kind of financial help, including perhaps housing and welfare benefits. She has little idea of how demanding and difficult bringing up a child in such circumstances will be. But she may decide that having a baby is the least unattractive alternative open to her.

The most powerful contraceptive for teenagers may therefore be ambition: the ambition to have a good quality of life.

Source: A league table of teenage births in rich nations, Innocenti Report Card No. 3, July 2001, UNICEF Innocenti Research Centre, Florence.[19]

pregnant while still a teenager may make these problems worse, but not becoming pregnant will not make them go away. Beyond the immediate problem, teenage fertility levels may also serve as an indicator of an aspect of young people's lives that is otherwise hard to capture. To a young person with little sense of current well-being – unhappy and perhaps mistreated at home, miserable and under-achieving at school, and with only an unskilled and low-paid job to look forward to – having a baby to love and be loved by, with a small income from benefits and a home of her own, may seem a more attractive option than the alternatives. A teenager doing well at school and looking forward to an interesting and well-paid career, and who is surrounded by family and friends who have similarly high expectations, is likely to feel that giving birth would derail both present well-being and future hopes." [18]

(See also the last sentence of box *A tale of two teenagers*.)

A 2003 report based on the long-running British Cohort Study confirms these conclusions. This followed all children born in a particular week in April 1970: the report used information collected in 2000 when they were 30. It showed that, compared to postponing childbearing into the 20s, the probability that a teenage mother's partner does not have education beyond 16 is about 20 per cent higher and the probability that he has a job is about 20 per cent lower. The likelihood that with or without a partner she is a homeowner is also substantially reduced. The child of a teenage mother is also seriously disadvantaged. He or she "is more likely to live in poverty, to grow up without a father, to become a victim of neglect or abuse, to do less well at school, to become involved in crime, to abuse drugs and alcohol, and eventually to become a teenage parent and begin the cycle all over again".[20]

Unplanned pregnancy

UK survey data show that 33–40 per cent of conceptions in all age groups were unplanned at conception, though often accepted later – rising to up to 90 per cent in teenagers. From an environmental perspective, the fact that so many births result from unintended conception and then, among teenagers, cause so much grief

Teenage pregnancy – the facts

- *At least 1.25 million teenagers become pregnant each year in the 28 OECD countries reviewed by UNICEF in 2001.[19] Of those, approximately half a million seek an abortion and approximately three quarters of a million become teenage mothers.*
- *The United States and Russian Federation teenage birth rates of above 45 per 1,000 are the highest in the developed world – and about four times the European Union average.*
- *The three countries with the lowest teenage birth rates are Japan, Switzerland, and the Netherlands – all with teen birth rates of five or less per 1,000 (latest data, 2003).*
- *The UK in 2007 has the highest teenage birth rate in Western Europe.*
- *In 19 of 28 nations reviewed,[19] births to teenagers had more than halved in 30 years. They have even diminished in the UK, though to a far lesser extent than in some other European countries.*
- *Giving birth while still a teenager is strongly associated with disadvantage in later life.*
- *Teenage mothers are less likely to finish their education, and more likely to bring up their child alone, in poverty.*
- *The infant mortality rate for babies born to teenage mothers is 60 per cent higher than for babies born to older mothers.*
- *Teenage mothers are more likely to smoke during pregnancy and are less likely to breastfeed, both of which have negative health consequences for the child.*
- *Teenage mothers have three times the rate of post-natal depression of older mothers and a higher risk of poor mental health for three years after the birth.*
- *Children of teenage mothers are at increased risk of low educational attainment, poor housing and poor health, and have lower rates of economic activity in adult life.*
- *Rates of teenage pregnancy are highest among deprived communities: the negative consequences of teenage pregnancy are thus disproportionately concentrated among those who are already disadvantaged.*
- *Reducing teenage births offers an opportunity to reduce the likelihood of both poverty and the perpetuation of poverty from one generation to the next.*

is plainly absurd. Each new UK birth, through the inevitable resource consumption and pollution that UK affluence generates throughout a lifetime, is responsible for on average about 160 times as much climate-related environmental damage as a new birth in Ethiopia or 35 times as much as a new birth in Bangladesh,[21] a calculation that makes no allowance for Ethiopian or Bangladeshi citizens' very obvious and reasonable wish for higher standards of living. This is compounded by the already unsustainable existing levels of population numbers and density in the UK.

However, this is but one of many reasons why moves to reduce unwanted teenage births can make a sensible contribution to population policy internationally and in the UK. The cacophony of contradictory advice in this area might lead one to conclude that the problem of teenage pregnancies can never be solved. The 2003 UNICEF report notes: "How teenage births might be reduced is a question to which everyone seems to have his or her favourite answer: more sex education or less sex education; abstinence education or free contraceptives in schools; dispensing 'morning after' pills or capping welfare benefits".[19]

The UK report *Teenage Pregnancy* (Social Exclusion Unit, 1999)[22] drew attention to the fact that, although teenage birth rates are the result of a

complex pattern of forces that differ considerably from nation to nation, the teenage birth league clearly shows this is a problem that some developed countries have brought under control and others, including the UK, have not.

Can we learn from the instances of success? In 1999 the UK government set up a teenage pregnancy strategy, followed in 2000 by the Teenage Pregnancy Unit (TPU). It applies evidence not only from the more successful countries but also from a number of individual "best practice" projects and case studies from within the UK. Campaign messages focus on the themes of "taking control of your life", the choices and personal responsibility themes embodied in the name of the website (www.ruthinking.co.uk) , with specific messages on peer pressure, the option of waiting for sex, sexually transmitted infections, using contraception and condoms. Advertisements focusing on the crucial issue of confidentiality have also been developed. The website and related endeavours are also aimed at problem groups that are often neglected, including boys and young men, young people from black and minority ethnic (BME) communities and those in care homes. All three groups are over-represented among teenage conceptions. TPU has also addressed young people with special needs, whether special educational needs or with physical disabilities.

The Teenage Pregnancy Unit (TPU)'s remit is ambitious, aiming to reduce conceptions under 18 by half by 2010 and provide better support, including contraceptives, for those teenagers who nevertheless become parents. Progress has been made on reducing under-18 and under-16 conception rates, to the point where both are now at their lowest level for 20 years. The England under-18 conception rate has fallen steadily, resulting in an 11.1 per cent decline between 1998 and 2004. The progress achieved nationally, however, masks significant variation in local area performance. Those areas which effectively implemented their strategies are seeing significant reductions of over 40 per cent.

In other areas, however, teenage pregnancy has not been given sufficient priority either within the area as a whole or among key parts of the delivery chain. If all areas were performing as well as the top quartile, the national reduction would be 23 per cent – more than double the reduction achieved. Therefore even the latest results remain a long way off the target and in 2006 the whole UK (England, Scotland, Wales and Northern Ireland) still had the highest number and rate of teenage pregnancies among the EU 25. This poor performance must be related in part to the disastrous trend in the modern NHS for primary care trusts to shut down community family planning clinics, where most service provision and training for the all-important long-acting reversible contraceptives (LARCs) is largely provided (see policies below).

(For the above statistics and more about the TPU, see its website http://www.everychildmatters.gov.uk/teenagepregnancy*).*

Future Policy – World

Contrary to perceptions, population problems do not just occur "overseas". The UK, for example, has a greater population density than China. It also followed a remarkably similar growth curve to the rest of the world (see first chart above), only differing by having its exponential growth phase a century earlier than in most developing countries. It has not yet stabilised.

Given increasing resource scarcity, therefore, the central conclusion is that **every country would benefit from having an environmentally sustainable population policy.** And, as recommended by a Royal Commission as far back as 1949,[23] the UK could and should set a good example**.**

Continuous population growth must be fully recognised by voters and politicians – through better environmental education – as impossible, both globally and in the UK. One consequence of this is that **fertility rates at replacement level or slightly below replacement level can be welcomed by almost every country.** Panics about "baby shortages" are misplaced.

What might these principles mean in practice? First, efforts to encourage, voluntarily, small families by education – "stop at two, or have one less" – should be maintained, and should include an environmental justification (which now resonates for people even in developing countries). **Fiscal incentives specifically intended to encourage women to have large families should always be opposed**. **Employment and taxation policies that enable women to combine careers with bringing up small families should be encouraged.**

More generally, education and women's empowerment in the area of reproductive and sexual health and the removal of all obstacles to birth control, together with the services to deliver the means of contraception and safer sex, need to be given the highest priority in all countries. This must include **reducing gender discrimination and sexual abuse** in its many forms together with **removal of the barriers to women's control over their fertility**, many of them caused by men – or by religion. These barriers include the infamous sexual double standard – husbands arguing that a wife who has contraception cannot be trusted not to go with other men while ignoring their own relationships with other women.

As we have seen, if family planning is available it is wanted.[12] **Resourcing an effective supply chain for methods of family planning** should be made a priority in every country. This applies especially to long-acting methods such as injections, intrauterine devices and implants (discussed below). As pioneered by Marie Stopes International, this supply chain should avoid medical barriers by primarily using so-called "social marketing", through small shops and pharmacies, with subsidies to bring down the price for the consumer. It should include not only condoms but provision of emergency pills, the regular Pill and injections.[12]

Sterilisation, for males (vasectomies) as well as females, is another option that must be readily available, as a choice among other methods. The fact that it is not easily reversible poses problems, given the increasing rate of relationship breakdown. Moreover in many countries high child mortality is a factor. If, as is often the case, female sterilisation is the only effective method available it will be used late and not accepted until the family size includes a wide "safety margin". Experience from the successful countries cited above suggests that if women can select earlier in their lives from the widest possible range of reversible methods – especially the long-acting reversible contraceptives (LARCs) such as IUDs, injectables and implants, all of which are nearly as effective as female sterilisation – they start using effective contraception at a much smaller family size.[15]

Education is of paramount importance and must involve the media in **providing correct information about methods of contraception and correcting misinformation**. For example, there is a widespread myth in Rwanda that to take the Pill will lead to permanent infertility. Moreover it is widely believed everywhere in Africa that contraceptives are "dangerous" and it's better to be "natural". Yet the "natural" risk in a woman's

Soaps with a point

Young and poor, Fikirte is in many ways Ethiopia's Everywoman. Her life takes a turn for the worse when she meets Damtew, who is so obsessed with revenge against Fikirte's innocent grandfather that he kills him and then begins to prey on her. He swindles Fikirte and seduces her half-sister, giving her HIV. He spreads vicious rumours to turn Fikirte's family against her and to crush her dreams of finishing school. Still not satisfied, Damtew tries to murder Fikirte – twice.

Does Fikirte's life sound like a soap opera? It is. The saga of Fikirte, Damtew, and the other captivating characters of Yeken Kignit ("Looking Over One's Daily Life") kept millions of Ethiopians glued to their radios for two and a half years. It also persuaded some of them to change their lives. Yeken Kignit was created to deliver life-saving messages in an entertaining way. These radio programmes reach millions of people in Africa, Asia and Latin America with support from the US-based Population Media Center (PMC), which uses the story-lines of soaps to promote family planning, reproductive health and the elevation of women's status in developing countries.

Unlikely as it sounds, PMC's strategy works, often where more conventional efforts have failed. Demand for contraceptives skyrocketed 157 per cent in Ethiopia during the 30 months that Yeken Kignit and a similar soap Dhimbibba ("Getting the Best Out of Life") were broadcast, according to the PMC. Male listeners sought HIV tests at four times the rate of non-listeners, and use of family planning methods rose 52 per cent among married women who listened to the programmes.

Social-content soaps use story-lines loaded with sex, love, betrayal, suspense and other standard soap-opera themes. But beneath the steamy stories is a rigorous methodology developed in the 1970s by Miguel Sabido, then vice-president of the Mexican broadcasting network Televisa. Sabido pioneered new techniques for producing telenovelas (the Spanish term for what Americans call soap operas) that captivate audiences while delivering important messages promoting literacy, family planning and other goals. Sabido says he aims to design programmes for commercial television that "achieve a proven social benefit without lowering the ratings. If the ratings are low, few people are watching the programme." The characters are good, bad, or like most of us, somewhere in between. It is these middle-of-the-road characters who typically have the strongest effects on audiences because we identify with them. As the stories unfold, we come to see the value of the programme's underlying message.

Audiences form emotional bonds with these characters over the course of many episodes. This connection is key to the success of these programmes, says PMC President Bill Ryerson. "When people get information in a perfectly cognitive, dry form, they tend to forget it. So when ministries of health say, 'Be faithful, use condoms,' it's not changing behaviour because people don't internalise those messages. The long-running nature of soap operas allows audience members to get to know the characters on an emotional level and fall in love with some of them. They often start to model their behaviour after those characters."

Epilogues following most broadcasts tell audiences how to obtain more information and resources. This combination of emotion and information can produce powerful results.

The Yeken Kignit model is being increasingly duplicated elsewhere – for example in over-populated Rwanda, where the programme-makers for one radio soap called Urunana took advice from The Archers on the BBC. But the approach might usefully be followed more often during soaps on UK television. Although on May 26 2006 an episode of Emmerdale described the use of the "morning-after pill", many opportunities for the encouragement of responsible sexuality are currently missed by the UK's TV and radio soaps.

For more details about the use of soaps for reproductive health messages, see Ode Magazine, March 14, 2006, and www.populationmedia.org

lifetime of dying from pregnancy, including unsafe abortion, is between 1:10 and 1:20 in sub-Saharan Africa whereas it is 1: 30,000 in Sweden, where contraceptives are universally used.

The independent media can play a part by broadcasting information about contraception that is accurate and impartial. TV and radio story-lines need not and should not encourage unplanned pregnancy. Indeed, as the box on soap operas describes, soaps are being successfully used to promote contraception and safer sex, and these success stories need to be replicated in more countries, not least the UK. Where appropriate, this could take place through the development of media-industry guidelines (see below).

Efforts to reduce teenage pregnancies, in particular, should be continued and strengthened. Given that one third of the world is under 20 (the figure is above 50 per cent in many African countries[6]), and given also that an early start to childbearing correlates with larger numbers of children per woman, this is of paramount importance in all countries. Some countries may find it appropriate, after full and democratic consultation, to bring in incentives for parents to have small families. These might include tax allowances, benefits and other social subsidies, such as maternity or paternity leave, which taper off after the second child, but with the proviso that "safety net" arrangements are in force to ensure that children from later births do not suffer.

One-child population policies should be the last resort, limited to emergencies such as so-called "demographic entrapment" where the environment of a region is so damaged as to approach being uninhabitable:

- They are unnecessary in most countries, given the successful outcomes in countries such as Thailand, Iran and Sri Lanka (see above) where two-child policies have been properly applied through education and high-quality fertility regulation services.
- They are liable to be neglectful of the human rights of some women, and of additional children who arrive despite the policy.
- They are counter-productive whenever coercion is alleged – even if in reality it is absent or uncommon.
- They are also prone to exacerbate gender imbalance, specifically an excess of young men. Given ever-increasing youth unemployment, one worrying consequence is that there may be few outlets for the testosterone-fuelled frustration of young males aside from violence.
- In the long term one-child policies will not be necessary, since after a population has stabilised and reduced to an environmentally sustainable level, a TFR of just above two would maintain this level.

Future Policy – United Kingdom

In the UK some of the recommended policies – for example, the free availability of contraceptives, uniquely in this country without any cost to the user – are already fully implemented. Despite this, the high rate of unwanted teenage conceptions relative to most countries in continental Europe is proving highly resistant to reduction. Hence we should distinguish between fertility policies aimed at adults and those dealing with teenagers.

As already noted, the UK's total fertility rate (TFR) was 1.87 in 2006. Such a fertility rate, if it were allowed to continue (i.e. not following the trend of the past five years and rising further), would, in the absence of excess (net) immigration, lead to a gradual reduction in the UK population to a more sustainable level. Since this TFR equates to a little under 19 children in every 10 family units, it allows some degree of choice in family sizes: it means that the few who have three or more children rather than two are on average currently being balanced (with no instructions from government) by those who elect to have one or none.

However, for the future, **a voluntary "stop at two" guideline should be encouraged for couples in the UK who want to adopt greener lifestyles**. This could be achieved through education in schools and awareness campaigns by environmental organisations and the media: it would aim to set an example to couples worldwide of the value of limiting family size with environmental protection in mind.

There are special issues for teenagers, but for those aged 20 and above **the major requirement in the UK is for the government to introduce an environmentally sustainable population policy.** All responsible organisations need to counter pro-natalist pressures, notably pressure to increase the birth rate to improve the proportion of workers to non-workers – the age dependency ratio. This is hopelessly simplistic since more children now means yet more pensioners in 70 years time, greatly increasing the total population of the country while not, in the long term, improving the dependency ratio problem.

From an environmental standpoint, the number of unwanted new arrivals on the planet or in the UK should always be minimised. Since in the UK more unwanted conceptions occur among teenagers than any other age-group, it is sensible to develop policies for this particular group.

A major obstacle is the length of time for which all young people now need to contracept, since rising levels of education, more career choice for women, the perception that contraception is now so effective and changing preferences, have raised the average age at first birth in all developed countries. Yet there is evidence (Figure 5) that in the UK sexual debut is slightly earlier than elsewhere while at the same time the responses by UK young people to questions about whether any form of contraception was used at last coitus show a lower rate.[24] This combination, of the trend to earlier sexual debut during adolescence and the societal advantages of delaying the first birth to well beyond one's teens, means that the need to avoid maternity lasts longer than ever before.

Policies and activities are best described under three main headings – together with a fourth that has been inadequately addressed to date.

1. **Joined-up action by government agencies.** There is a need to engage and co-ordinate all the many stakeholders, to avoid both wasteful duplications and gaping omissions. The well thought-out though not always successful endeavours of the government's Teenage Pregnancy Unit (TPU) in this area are described above and at www.everychildmatters.gov.uk/teenagepregnancy.

2. **New guidelines for the portrayal of sex and fertility issues by broadcasters, print media and internet service providers.** These could be drawn up through consultation with industry, government, health agencies such as the TPU and relevant NGOs. They would be aimed at

   - countering the glamorisation of sex and motherhood among vulnerable groups, and
   - stressing personal and social responsibility.

   Action already taken over smoking, fatty food and advertising to children recognises the power of the media to influence attitudes and behaviour; statistics on teenage pregnancies, sexually transmitted infections and AIDS suggest

that this is too important a subject to be left to the market-place. Critics may object that this is another example of the nanny state in action – but when the whole of society pays the price, some judicious nannying is surely a highly appropriate function for the state to exercise on behalf of its citizens and the natural world. The guidelines could cover:

- Motivational programmes that target young men as well as young women.
- Avoiding the portrayal of teenage sex/ pregnancy in advertising to promote teenage products such as jeans, perfume, jewellery, make-up and cosmetics.
- Less use of teenage pregnancies in the story-lines of TV soaps whenever they tend to glamorise the outcome.
- Promotion of sexually responsible behaviour through positive character portrayal in soaps. This could include: safer sex, using condoms; the use of effective contraception including the morning-after pill; and the option of sexual abstinence (see below).
- Programmes involving young people that demonstrate: how demanding a baby is of its mother; the sheer drudgery sometimes involved; and how effectively it prevents normal teenage social life. For example, the trials shown on BBC Television's *Video Nation* series used a highly realistic "virtual baby"[25] which cries repeatedly and can only be silenced by the "mother's" immediate attention.
- Story-lines that demonstrate how teenage motherhood blights future educational and earning prospects.
- Environment programmes that advocate using contraception to avoid unwanted babies and depict this as integral to being "green" – no less relevant, for example, than saving energy or recycling or bicycling.

3. Improved sex and relationships education (SRE) and access to family planning and sexual health (FPSH) Services.

- This terminology ("sex and relationships education", SRE) should always be used, as a matter of policy. The term "sex education" is unhelpful, both because it omits the crucial word "relationships" and because it allows opponents to allege that this means "educating" or encouraging young people to have sex before they otherwise would – an allegation that is widely believed, though not supported by the facts.
- "Someone with a *smile* would be your best bet…" This was the conclusion from a focus group of young people to the question "Who would you like to advise you about sex, relationships and contraception?" – something of an indictment of the providers those young people had previously encountered.
- Confidentiality is crucial -"here to listen, not to tell" – in making appointments and at contraceptive consultations, for all young people, not only for girls.
- Midwives, social workers and probation officers as well as teachers and school nurses, whose positive influence can be immense, should see it as their duty to raise issues of sex and contraception opportunistically with their contacts. Knowledge in this embarrassing area is greatly empowering.
- SRE programmes should present all choices in contraception even including what is sometimes termed "saving sex" – not having sex yet. There is no reason why this very safe option should not be offered as one of the choices, though it is unrealistic to insist on abstinence as the sole path for all to follow.
- Since contraceptives so often fail the user – or, more commonly the user fails the contraceptive – it is unsurprising that teenage conception rates tend to be high, especially in the UK. This is a disadvantage of pills for contraception, which have the wrong "default" state – conception. By contrast, the long-acting reversible contraceptives (LARCs) have the built-in advantage of being forgettable.
- LARCs such as contraceptive implants, injections and the intrauterine methods should be made much more readily available

to young people, since, as noted, they have the virtue of forgettability and have been shown to be far more effective in typical use than the contraceptive pill – as emphasised in a 2005 report by NICE.[26] Indeed, achievement of the government's teenage conception reduction targets of between 40–60 per cent by 2010, from their 1999 level, is probably out of the question without a major increase in the uptake of the LARCs.

- Given that both service provision and training for the LARCs in the UK is largely provided by community family planning clinics, it is a calamity that contraception services are so undervalued in so many primary care trusts in the UK, leading to a steady attrition of their staff and facilities.[27] This trend must be reversed with great urgency.

- The impact of emergency contraception (EC, the "morning after" pill) has been disappointing, despite wide publicity and improved availability. It is calculated that it prevents up to 90 per cent of conceptions but about 90 per cent of UK women requesting termination of pregnancy did not use EC in the appropriate cycle, so the message is not being taken on board.[28] Although it must be publicised and made available, not least on the radio and in the shops of the slums of developing countries, the expectations of EC are a long way from being fulfilled.

- Parents in the UK need more support and education for their vital and neglected role of providing good SRE for their own children, so that the learning process for young people – about their bodies, their sexuality and their relationships as well as contraception and sexually-transmitted infections (STIs) – can begin at home, matter-of-factly, at the moments the questions are asked. The *Parentline Plus* website (http://www.parentlineplus.org.uk) implements the TPU-linked "Time to Talk" initiative, aimed at helping parents develop confidence and skills in talking to their own children about sex and relationships.

4. **Perverse incentives for having a baby.** Policy recommendations that do not risk adverse effects on the children involved are elusive. A comprehensive study is long overdue of the factors, both in the culture of deprived areas and in the benefits system, that seem to act as perverse incentives to conceiving or, more probably, as *disincentives* to the effort of *preventing* conception. Such a study should ideally be funded by government, leading to new evidence-based social and fiscal policies that will combat the UK's persistent teenage pregnancy culture.

Policies and Recommendations Checklist

- Every country would benefit from an environmentally sustainable population policy
- Fertility rates at or slightly below replacement level should be welcomed
- Efforts to encourage, voluntarily, small families by education and through the media – "stop at two or have one less" – should be maintained and promoted
- Fiscal incentives to encourage women to have large families should be opposed
- Women's empowerment in reproductive and sexual health should be given the highest priority
- New guidelines should be developed for the portrayal of sex and fertility issues by broadcasters, print media and internet service providers
- Obstacles to birth control should be removed, contraception and safer sex services prioritised
- Challenges of the global youthquake should be recognised, with a special emphasis on preventing teenage pregnancies, in the UK and worldwide, and particularly in the slums of the planet's new mega-cities

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The Earth is facing a future of rising populations and increasing damage to its life-support systems. It is also confronting the biggest generation of adolescents and teenagers in its history – a "youthquake" with major social, political and demographic implications. These challenges together demand a response from governments, not least in the UK, which for the first time recognises the crucial role of human numbers in both social and environmental policy-making.

John Guillebaud is emeritus professor of family planning and reproductive health at University College, London. He is the former medical director of the Margaret Pyke Centre for Family Planning, a consultant to the World Health Organisation and other international bodies and the author of seven books and 300 other publications on birth control, reproductive health, population and sustainability. He is co-chair of the Optimum Population Trust.

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