

Briefing Note

Population Dynamics in Mitigating Climate Change

Human population both affects and is affected by climate change. Changes in population size have implications for the ability of societies to adapt to the effects of climate change and for the patterns of consumption and production that generate the emissions driving climate change.

At policy level, however, the population dimension has received little attention. Reducing population growth is not a unilateral solution but a comprehensive climate change strategy must factor population dynamics among a range of other critical elements if mitigation and adaptation effects are to be successful.

Impact of Population on Climate Change

According to the median projections of the 2015 UN World Population Prospects report, the global population is expected to grow to 9.6 billion by 2050 and 10.9 billion by 2100.¹ At present the Earth’s population increases by 80 million people a year. Each individual generates greenhouse gases (GHGs) — on average five tonnes of CO₂ per capita.² The “carbon legacy”^{*} of just one child in

the developed world can be 20 times more GHGs than a person will save by driving a high-mileage car, recycling, using energy-efficient appliances and light bulbs, etc.³

At 7.1 tonnes per capita in the UK, each British individual’s carbon emissions are higher than the global average and multiple times higher than those of people in less developed countries.² Every additional Briton, at current emission rates, will generate roughly 500 tonnes of carbon during their lifetime — equivalent to setting fire to two hectares of old-growth oak woodland.⁴ The UK’s projected population increase of 10.5 million by 2074 will thus have the same impact on the climate as burning an area of oak woodland approximately the size of England and Scotland combined (21m hectares). The UK population as a whole thus has an impact on the atmosphere, and thus on the rate of global warming, far greater than its numerical population suggests.

The IPCC has estimated that, under dangerous climate change scenarios in 2050, CO₂ emissions could be lowered by 30 per cent by 2100 simply if the unmet need for contraception worldwide is fulfilled.⁵ According to a 2010 study, reducing global fertility rates by just 0.5 children per woman (from the UN’s median projections at the time to its low projections) could result in a total carbon saving of 5.5 bn tonnes *per year* by 2100.⁶ Thus, every child foregone — every addition to the population that does not take place — saves more GHG emissions than any other mitigation measure.

^{*} “Carbon legacy” is the summed emissions of an individual and a portion of their descendants’ emissions on the basis that a parent is “responsible” for half the emissions of their child, a quarter of a grandchild’s and so on.

UK and COP21: Need for a population-based strategy

If the UK is to meet the goals set in the Paris Agreement, our population growth poses a huge challenge. According to the Office for National Statistics, the UK population is projected to grow from 64 million in 2014 to 85 million in the next 80 years.⁷ The increase of this magnitude in the population means that every Briton will have to reduce their per capita emissions by 17 per cent for the country as a whole merely to “stand still” in emissions terms, i.e. to keep its overall emissions level the same.

The current approach to climate change mitigation in the UK emphasises a technological strategy, which addresses one-half of the equation (supply) at the expense of the other (demand). In October 2016, the Committee on Climate Change warned that “current decarbonisation policies, at best, will deliver about half the [UK’s] required reduction in emissions.”⁸ It noted in particular the failure of certain technology-based solutions to deliver the reductions in GHGs that had been assumed. While greener technologies and reduced consumption both have a vital role to play, the case for including population-relevant policies in the UK’s climate change strategy is becoming increasingly pressing.

Family planning: Most cost-effective approach to reducing global GHG emissions

Population Matters supports family planning programmes in the developed and developing world. It has calculated that saving a tonne of CO₂ costs on average only £5 – 7 if the money is spent

on family planning; to achieve the same by means of solar power would cost £42.⁹

Some 225 million women have an unmet need for contraception.¹⁰ If this need were answered, the impact on population growth would be significant, though not decisive: the annual growth rate of 83 million would be reduced to 62 million.¹¹ Given a general (though not universal) inverse correlation between a country’s wealth and its fertility rate, family planning is an effective emissions-reduction strategy both in more developed countries where GHG emissions per capita are high and in poorer countries in which population growth is often high. Economic development in less developed countries is already increasing their emissions per capita, a rise compounded in many cases by population growth. Given the urgency of the issue, the UK must maintain and enhance its position as a leading supporter of family planning through overseas aid. This would not only help mitigate climate change impacts but would continue to benefit communities and nations directly and help achieve the Sustainable Development Goals.

Recommendations

The most effective and cost-effective single climate change policy is reducing population growth. Population stabilisation should, therefore, be a central strand in national and global climate change strategies — a strategy with particular relevance to developed nations such as the UK which require to reduce their already high emissions because of their higher consumption levels. Thus, recommendations on tackling climate change at national and global levels include:

- Increased investment in family planning, Sex and Relationships Education and other policies to address unwanted

pregnancy in the UK.

- The use of overseas aid through both DfID and the International Climate Fund to support effective best practice population stabilisation policies, including family planning, education and women’s empowerment.
- Pressing for policies to address population growth as part of international negotiations and discussions under the United Nations Framework Convention on Climate Change and other relevant mechanisms.

References

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