

# Science for Environment Policy

## How to communicate the risks of population growth?

**We need a better understanding** of how the public perceive the risks of population growth, a new discussion paper argues. Research into public perceptions of the environmental and social challenges of population growth could guide behavioural-change communications to help limit growth and manage the difficulties. Specific communication issues include how to convey statistical information and the complex impacts of population growth.

**The world's population** has risen from 1 billion in 1850 to 7 billion today in response to better living standards since the Industrial Revolution. It is expected to grow by a further 70 million every year, reaching 9-10 billion by 2050. This growth exacerbates environmental problems, including [resource](#) shortages, climate change and hazardous developments, such as more toxic waste sites. Furthermore, [natural disasters](#) will likely have bigger impacts on humanity because land shortages could force more people to live in regions at [risk](#) of floods or earthquakes, for example.

This paper presents an overview of previous research into [risk perception](#)<sup>1</sup> and [communication](#) – as relevant to population growth. It also aims to steer future research efforts by highlighting where more studies are needed. Research has shown that a heightened sense of risk can lead to behaviour change. In the field of health, for instance, a greater sense of disease risk can encourage people to get vaccinated.

The same principles could lead to behavioural changes relevant to population growth, the paper says. For example, a stronger sense of its risks could affect family planning choices, support for public policy designed to curb population growth (e.g. reduced benefits for large families), or decisions on where to live and whether to share resources.

However, there has been very little research into how the public perceive the risks of population growth. The study's authors therefore call for more studies in this area, which could help us understand public concerns and how these concerns affect behaviour.

The paper also provides recommendations for communicating population growth risks. Statistical information is important for understanding populations, but studies have shown that numerical data can be hard for people to understand. They may also 'switch off' when given detailed statistical information.

The paper's authors believe that communicators therefore need to consider how to present numbers so that they are easily digestible and people can connect with them. Possible solutions may include 'icon arrays' (a form of infographic) and 'frequency formats', whereby the frequency of occurrence is shown, as opposed to a percentage or a total figure. To illustrate, many people find it easier to process '1 in 10' than '10%'.

Research into [climate change](#) perception has found that people have a low sense of risk if the event is perceived to be one that will occur far away or in the future. This psychological distance can be reduced if people are given information about impacts that are already occurring, such as increased deaths from natural disasters as a result of population growth so far.

Cumulative or knock-on risks are also hard to comprehend. For example, population growth can lead to greater land use, which in turn can increase biodiversity loss. Furthermore, care is needed when communicating the uncertainties of population growth. Giving details of uncertainty in risk messages can increase public trust in the communicator in many cases, but can also be seen as a sign of incompetence. This is another area where research is needed, so that we can establish how to communicate these complexities, the paper says. For instance, it is worth exploring how existing approaches to communicating complexity in other fields could be used here.



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1. For further background on this topic see Science for Environment Policy's Future Brief on Public risk perception and environmental policy: [http://ec.europa.eu/environment/integration/research/newsalert/pdf/public\\_risk\\_perception\\_environmental\\_policy\\_FB8\\_en.pdf](http://ec.europa.eu/environment/integration/research/newsalert/pdf/public_risk_perception_environmental_policy_FB8_en.pdf)