The 11th of July is World Population Day. With discussions about overpopulation, under population, birth rates and pregnancy choices currently making headlines, Meryl Batchelder considers the challenges in analysing population trends. Can thinking of ourselves as ancestors encourage us to make positive changes to the way we behave?

One in 8 Billion

Demography is the statistical study of human populations, and it can be utterly fascinating examining the size, structure, and movements of people over space and time. The scientific study uses methods from history, economics, anthropology, sociology and an understanding of our environment. It simply isn't possible to be sure exactly how many people there are on the Earth at any one time but it is easy to become more than a little obsessed with the Worldometer statistics on world population, the site even has a mesmerising page where you can watch the number of global citizens increasing at a rate of more than one per second.

World Population Day is observed on July 11 each year and seeks to raise awareness of global population issues such as the importance of family planning, gender equality, poverty, maternal health and human rights. The event was established by the UN following Five Billion Day in 1987, the point at which the global population reached 5 billion. Fast forward thirty-five years and the number of humans is now approaching 8 billion.

Having reasonably accurate estimates of population trends and reliable forecasts of the size of populations and their distributions by age, sex and geographical location, is essential for any country trying to plan for the future. Recently there have been claims that the world is both on the verge of disastrous overpopulation or is facing catastrophic population collapse. In fact, both sides are true to a certain extent depending on where you are in the world.

Overpopulation or Underpopulation?

China is the most populous country in the world with 1.4 billion citizens. However, by the year 2030, India is expected to have the highest population. This is because India's population is predicted to continue grow, while China is projected to see start seeing a loss in population. China's controversial one-child policy and resulting sex-selective pregnancy terminations has resulted in a ratio of 120 boys for every 100 girls. Experts are now concerned that China's low birth rate, combined with its aging population, will damage its future economic development.

Population decline has positive and negative impacts on a nation. A shrinking population can mean more available resources available and per capita wealth may increase. Also, it could reduce problems such as pollution, traffic, housing availability, and environmental degradation. However, population decline can also lead to an aging population and a shrinking workforce, especially in terms of educated, high-skilled workers. These shortages can cause an overall reduction in the quality of life. The greatest area of population decline in the world is in Bulgaria and Latvia in Eastern Europe, which are losing large portions of their populations to emigration.

The recent census of England and Wales shows that for the first time the number of people over 60 is higher than the number of people under 20. The demographer Paul Morland spelled out the problems of an aging population for readers of the Sunday Times by suggesting the UK needs radical ideas and a long-term plan to prevent crippling workforce shortages in the near future. His

contentious article proposed that the aging population in the UK should warrant the taxation of childless couples. Contrary to this point of view, maybe it would be more circumspect to focus on the causes of the low birth-rate including affordable housing, protection for rental tenants, workplace protection for the pregnant and affordable childcare. This could cause more people to consider starting a family.

While the populations of some countries are ageing, other countries have rising proportions of young people. The populations of Niger and South Sudan are increasing by several percent each year. Population increase is usually a result of better health care so people live longer, improved agriculture so farmers can produce more food or that contraception is not permitted in the region.

Population scientists believe the number of humans will stabilise around 2100 at 11 billion and then will start to decline. There are several unknown factors which could move this date considerably including climate change, pandemics, and wars.

It is worth noting that the world's problems with climate change don't link to the number of people on Earth, but to the emissions of the top 1%. According to a report by Oxfam, the richest one percent of the world's population are responsible for more than twice as much carbon pollution as the 3.1 billion people who made up the poorest half of humanity during the past 25-year period of unprecedented emissions growth.

Life Expectancy

Global life expectancy has also improved in recent years, increasing the overall population life expectancy at birth to just over 70 years of age. The projected global life expectancy is only expected to continue to improve, reaching nearly 77 years of age by the year 2050. Significant factors impacting the data on life expectancy include reducing the rates of infectious and non-communicable diseases. Unsurprisingly, Covid has reduced life expectancy.

In the UK, it seems life expectancy has almost peaked and the there are some worrying trends in inequality. According to the Kings Fund people living in more affluent areas live significantly longer than people living in deprived areas. In 2017–19, males in the least-deprived 10 per cent of areas in England could expect to live to 83.5 years, almost a decade longer than males in the 10 per cent most-deprived areas which only average 74.1 years. Females in the least-deprived 10 per cent of areas in England could expect to live to 86.4 years, compared with 78.7 years for females in the most-deprived areas, a difference of almost 8 years. Much of this inequality is caused by higher mortality from heart and respiratory disease, and lung cancer in more-deprived areas due to a lower quality of life.

Respecting Maternal Choice

Maternal choice means a woman has the controlling decision over what happens to her body, and unborn baby. The state control of population, such preventing or forcing abortion undermines human rights, including reproductive rights when women are forced to have more or fewer children against their will or because they don't have access to the information and services to help them make that decision. Although there has been progress in maternal health and access to contraception, it is not universal, and drives inequality; women still die in childbirth and gender gaps are long-established.

Rights for women to make their own choices about maternity have been making the news recently. The US Supreme Court has just allowed individual states to ban or severely restrict the ability for women terminate a pregnancy. Many states such as Arizona, Texas and South Carolina, have already banned legal abortions. Historically, political suppression of maternal choice never been hugely successful in the long term.

The United Nations Populations Fund (UNFPA) is the United Nations sexual and reproductive health agency. Their mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled. For World Population Day there are focussing on 'A world of 8 billion: Towards a resilient future for all'.

Seven Generations

Recently I started reading about the "Seventh Generation Principle". It is a concept is based on an ancient philosophy of the Iroquois confederacy of First Nations peoples in North America. Their cultural philosophy is based on the idea that the decisions we make today should result in a sustainable world seven generations into the future and to remember the seven generations who came before.

If I go back 7 generations in my family on my mother's side, assuming each generation is around 25 years, I believe her great, great, great, great grandfather worked in the coal mining industry in South Wales. It would have been around 1830 when the industrial revolution was driving development. Back then there were just 1 billion people on Earth.

Following the Industrial Revolution, and the inherent harnessing of fossil fuels as a cheap and plentiful supply of energy, the global population started to grow rapidly through technological developments in industry and agriculture. The revolution was a real turning point in terms of the rate of population growth.

Looking into the future, what the world will be like in 7 generations time, around the year 2200, really depends on how we behave now. Some planetary changes are already locked in from greenhouse gases that have already been emitted by humans burning those abundant fossil fuels. Sea levels may be 2-3m higher, there will be no ice in the Arctic in summer, heatwaves of 60°C will be commonplace and storms will be more intense. That said, humans are flexible and creative. We may have incredible technological solutions to help adapt to the warmer planet, from manufacturing automation to hydroponic agriculture. Nonetheless we need to urgently transform our society away from dependence on fossil fuels and look to a sustainable future.

Being a good ancestor

So, rather than looking at demographic changes, maybe we should now focus on people, not population. Afterall we are 8 billion humans, not just numbers. By promoting the health and well-being of people and planet, would it be possible to make our socio-political and economic systems work for each and every global citizen?

Humans tend to think in the short term, which can be damaging for society and environment. We also really need to ensure young people understand that humans are part of the ecosystems on which we depend. As the number of humans and their domesticated animals has increased the level

of biodiversity has decreased. A book entitled the Good Ancestor by [Roman Krznaric](#) promotes long-term thinking to ensure that our ancestors inherit a thriving planet and society.

The UNFPA report states, "In an ideal world, 8 billion people means 8 billion opportunities for healthier societies empowered by rights and choices." In order to end inequality based on gender, ethnicity, class, religion, sexual orientation, disability, or origin we must individually call out discrimination, harassment, and violence whilst also holding people in power and politics to account.

Maybe we need a recalibration for Eight Billion Day. Rather than acting as individuals, each striving for our own wealth, comfort, and security, maybe the base of humanity's real strength is when we work together for the greater good. There is joy to be had in developing resilient communities where people of all ages and backgrounds take part in positive action for the present but that which will also benefit our descendants seven generations from now.

Lesson ideas:

Population provides some fantastic opportunities for debate in the classroom.

- Are there too many people on the planet?
- Is overpopulation or underpopulation preferable?
- Should abortion be illegal?
- Should the UK tax childless couples?

Useful websites:

- https://worldpopulationhistory.org/teachers-resources/
- https://ourworldindata.org/teaching#population-growth
- https://globaldimension.org.uk/resources/