Population and environment: what we do in Woolies matters more than what we do in bed

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In any discussion of the world's environmental problems, someone will always argue that the core problem is that the world has too many people. Cliff Hooker has recently named it "the elephant in the room", although it must be one of the most talked about pachyderms around.

So is population growth the chief culprit for, say, climate change? It is indisputable that, other things being equal, faster population growth will make the task more difficult. There is also no question that the enormous expansion of the global population over the last several decades has left us much more vulnerable.

But when we consider the task ahead of us we should remind ourselves that it is the proliferation of people with high levels of emissions that has given us the climate crisis. This is shown to devastating effect by two North American researchers, Paul Murtaugh and Michael Schlax who have estimated the "carbon legacies" of reproductive decisions.

It is obvious that our consumption decisions affect the amount of greenhouse gas emissions for which we are responsible—which explains why Canberra residents have both the highest level of environmental awareness in Australia and the highest level of per capita greenhouse gas emissions. They are on average richer.

But our reproductive decisions also affect the emissions that are down to us. Murtaugh and Schlax assign to a person responsibility for their own carbon emissions and that of their descendents, since those emissions are contingent on that person's reproductive choices.

They assume that a mother is accountable for half of the emissions of her offspring and a father is accountable for the other half. Each is then responsible for a quarter of the emissions of their grandchildren, and so on. Making a number of reasonable assumptions for various countries about fertility rates and future per capita carbon emissions, the researchers estimate that the carbon legacy of the average female in the United States is 18,500 tonnes of CO_2 while that of a Bangladeshi woman is only 136 tonnes.

In other words, the future stream of carbon emissions following a decision by an American couple to have an extra child is 130 times greater than that of a decision by a Bangladeshi couple.

Put another way, to have the same impact on future global carbon emissions, a decision by one American couple not to have a child would have to be matched by 130 Bangladeshi couples. So population policies should be targeted now at the United States and the larger European countries (including Russia) rather than poor but populous nations like Bangladesh, India and Nigeria.

The US-Bangladesh comparison is the most extreme case, but even comparing the carbon legacies of parents in the United States and China gives a factor of nearly five. (For India the factor is nearly 50.) In short, it makes no sense to single out population growth without linking people to their consumption, and that of their descendants.

Of course, since the population of China is so enormous (four times bigger than that of the United States) any policy that limits fertility will have a large global impact. Although not part of the plan, China's much-maligned one-child policy means global greenhouse gas emissions will be measurably lower in the 21st century, a fact for which we should be grateful.

On the other hand, in terms of greenhouse gas emissions China's rapid economic growth over the last decade, followed more slowly by its consumption growth, has blown away the gains of 50 years of population control. We in the West have no right to point the finger, but the fact is that the vast burgeoning class of prosperous consumers in nations like China, India and Brazil are taking over as the principal cause of environmental spoliation.

Recognising that affluence rather than population growth is mainly responsible for the climate crisis allows us to recast the famous Malthusian theory. In his 1798 Essay on the Principle of Population, Thomas Malthus argued that there is a natural tendency for unchecked population growth to outstrip the capacity of agriculture to increase food production, so that famine, pestilence and war tend to bring the supply of people back into balance with the supply of food.

Parson Malthus attributed the tendency of population to grow at a geometric rate to "the vice of promiscuous intercourse among the inferior classes". Yet I think it must now be admitted that the situation we face has arisen not from the old working-class vice of excessive copulation but the modern middle-class vice of excessive consumption. And just as in later editions of his essay Malthus recognised that the natural checks of famine and war could be avoided by "moral restraint" in the form of postponement of marriage and abstinence, so the answer to the climate crisis lies in disinterring the middle-class virtues of moderation and frugality.

This article is based on part of my book Requiem for a Species (2010).