**How much environmental pressure can family planning avert? – A commentary on projections by Bradshaw and Brook**

The paper "Human population reduction is not a quick fix for environmental problems" by University of Adelaide environmental scientists Corey Bradshaw and Barry Brook, presents a range of scenarios purporting to explore the extent to which action to reduce fertility can reduce the environmental impact of human population growth this century. While the authors do advocate action to extend family planning globally, they downplay its near-term environmental impacts.

There are some serious problems with the projections, which have had the effect of diminishing the risk of continuing on our current path, and understating the impact of lowering fertility. By deriving the global scenarios by applying global average fertility, mortality and age structure, they have ignored the highly significant impact of country-to-country variations. High fertility countries rapidly increase their share of the total global population, so that a "constant fertility" scenario actually has a rising global fertility. This is amply demonstrated in their own subregional scenarios. At the global level, their "BAU" scenario (1) is almost the same as the "realistic" scenario (2a) in which fertility falls slowly to 2.0 globally by 2100 but mortality also halves. However, when they apply it to subregions, "the final mean population densities [in 2100] were between 16% and 37% lower [for subregions in the 2a projection] than those predicted assuming constant vital rates." One would have thought this would raise some consternation among the authors and reviewers, since it clearly contradicts the global outcome, and the headline. But they were evidently oblivious to this internal contradiction.

I went to the trouble of calculating the 2100 population for each subregion, from the data in Tables S2 and S3, and summing them to find the global total. This gave 14.5 billion under the BAU scenario, and 9.8 billion under the slow-decline-to-replacement-fertility scenario. This contrasts with the 10.42 and 10.35 billion estimated using the same parameters at global level. Note that the difference would be even greater if the projection were done on national data rather than subregions. The UN projects each nation before summing regional and global growth. Under its "constant fertility" projection, we would reach 28 billion by 2100 (with some reduction in mortality built in).

The third scenario, in which fertility falls to one child per woman by 2100, is considered "draconian". Yet it matches closely my own projection of a scenario in which family planning programs are adopted by all remaining high-fertility countries, and they achieve merely the average course of fertility decline and stabilisation already achieved by family planning countries in the past. (I also assumed an end to pro-natalism in low-fertility countries, in contrast to the UN's medium assumption that they rebound toward replacement.) The difference is that my family planning scenario would

make the transition to below-replacement much more quickly, and early reductions have much greater impact on final population than later. My BAU projection reaches 14 billion by 2100, like Bradshaw and Brook's, although mine is based on country projections extending recent patterns of fertility change. (The UN's mid projection only reaches 11 billion because it assumes an immediate rate of fertility decline that simply isn't happening.) Hence, the very achievable, non-draconian option of modelling family planning programs on those which already have runs on the board, achieves a 15% reduction from BAU by 2050, and a very non-trivial 45% reduction by 2100. Achieving best practice would bring it down even further. Each year of delay in implementing this program would add close to 100 million to the peak population.

This adds to my exasperation that Bradshaw and Brook essentially hose down the priority for action to curb population growth. They have the cheek to label those who suggest population growth is the "elephant in the room" as merely lay proponents, when they are clearly lay demographers themselves. An elephant in the room doesn't cease to be relevant just because you decide that there is no near-term way of getting it out. It is important to understand that, when we address social and environmental crises, what we are doing is mitigating the impact of the overpopulation elephant – it saves us embittering ourselves against scapegoats and expending futile effort addressing proximal causes and false fixes.

Bradshaw's blog features a cartoon, ridiculing the high-consumption rich telling the poor to stop breeding when it is they who are sinking the lifeboat. I have often used the same cartoon to demonstrate the wrongheadedness of the self-righteous "it's all about consumption" crowd, who clearly miss the point that it is the poor who suffer most from their population growth. Not to mention that biodiversity loss is associated more strongly with population pressure than overconsumption, as Bradshaw and Brook demonstrate in their paper. Bradshaw does not comment on the cartoon, so the inference must be that he shares its message – that those who advocate population control are deficient in both facts and morals. The opposite is the truth – which Bradshaw and Brook's flawed projections conceal.

Bradshaw and Brook are no doubt sincere in their belief that morally acceptable efforts to reduce fertility will do little. This probably results from their ignorance of the impact of family planning programs, where they have actually been implemented without being stifled by the Vatican and the U.S. gag rule. This ignorance is apparent in the passage "[Fertility] lowering has been happening in general for decades, a result mainly of higher levels of education and empowerment of women in the developed world, the rising affluence of developing nations, and the one-child

policy of China." All three of the mentioned drivers were probably weak influences. In developed countries, the arrival of the pill had more to do with it – the great increase in women's roles in the workforce that occurred during WWII didn't stop post-war fertility climbing far above its pre-war depression level. Affluence of developing nations has risen only where and when fertility had already dropped far enough to enable it, while China's fertility transition was mostly done under a voluntary program before the one-child policy began. The "general" lowering they refer to is the result of rapid lowering in individual countries at different times, averaged with all those who saw little decline because they did little, other than hope girls' education and affluence would step in.

As for the benefits only being felt by our great-great-great grandchildren, one only has to compare the countries that did major voluntary family planning programs in the '70s and '80s with those that did not to see that the benefits have been very substantial within one generation. But of course, we're not allowed to make such comparisons, because doing so would contravene the UN's mantra that it is evil to "focus on the numbers", and that population-focused family planning was a wrong turn that only led to human rights breaches. Instead of acknowledging that the active promotion of small families did rapidly change cultural norms without coercion, we have to pretend that all the past success was due to women's empowerment or wealth. We redefine "family planning" as "family planning to meet the unmet need for contraception" (i.e. supplying contraception to those who ask for it) and then demonstrate how ineffective it is at lowering fertility (which indeed it is). There is apparently greater concern about the faintest possibility of coercive contraception (which no-one advocates) than about the daily horrors of coercive pregnancy, against which the "sexual and reproductive health and rights" agenda has been decidedly ineffective. It's time for a conversation about the difference between "coercion" and "duty of care".

Briefing by Jane O'Sullivan - October 2014

Dr. O'Sullivan is Honorary Senior Fellow at the School of Agriculture and Food Sciences, Faculty of Science, University of Queensland and sits on the Executive Committee of Sustainable Population Australia.

*Population Matters is the UKs leading charity concerned with population and sustainability.*

*135-137 Station Road, London E4 6AG UK +44 (0)208 1239116*
*www.populationmatters.org Company registered in England 3019081*
*Charity number 1114109*