

Fertility, Equality, and Planetary Stewardship
A MAHB Dialogue with UC Berkeley Professor of Public Health
Malcolm Potts

Geoffrey Holland



Sharing our World | Photo courtesy of the author

Malcolm Potts shares his optimism for the future and makes the case that educating women and younger generations will be the key to restoring the health of the biosphere we all depend on.

“There are about 80 million unintended pregnancies annually. If we could just get rid of unintended pregnancies, we could greatly slow population growth today. Family planning is not telling women what to do, it’s listening to what they want:”

Geoff Holland - Can you summarize the current state of human population demographics in the US and the world as a whole?

Malcolm Potts - Beginning with the world as a whole, since I was born in 1935, the world population has grown from 2 billion to 7.6 billion. More recently, in 1970, just before I came to the USA, the world population was 3.7 billion people. At that point, the population was growing by 72 million more births than deaths each year. Today, the world population is 7.6

billion, growing by about 90 million annually. It's the absolute numbers that matter. In absolute numbers we are seeing the most rapid population growth in human history.

GH - Is the human population on earth already too large for our planet's ability to provide?

MP - Yes, I think there's absolutely no doubts about this. It's difficult to measure the ecological footprint of the planet, but I think everybody agrees that sometime in the past few decades, or sometime in the next few decades, we will exceed the capacity of this planet to support humanity in the sense that will be taking more sustainable resources out of the biosphere than we can replace. If we wanted to bring everybody to the US level of income, we would probably need, from a resource standpoint, five additional planets. As an amateur astronomer, I don't see any mere planets available to us. In fact, just as an aside, if the moon had adequate water and oxygen, and if there were some economical way of getting people there, at present population growth rates, we would populate the moon to capacity in 10 years. So let's recognize, we have to manage just with our own tiny, fragile planet. Another thing that sticks in my mind is that in the last nine years, China consumed more dirty, fossil energy than it did in the preceding 4000 years of history.

My way to quantify the pace of change is as follows: between 1950 and 2000, population grew at about 1.7%, the GDP at about 2.2%. If you put those things together, population growth and economic activity, the total impact on the planet is just under 4% a year. If you grow it 4% a year, you double your impact every 18 years. So, during the life of most of today's undergraduate students the impact of human numbers and of economic growth on our Earth's capacity to sustain us has doubled. No one would call that sustainable.

GH – Does shaping a future that is life affirming, and ecologically sustainable require a gradual reduction of our planet's human population?

MP - I would emphasize the word 'gradual.' There is no immediate way of making a significant difference to the global population trajectory. The problem is what demographers call population momentum. Look at China: the total fertility rate is 1.8, less than is required to keep the population steady. But, because of population increase a generation ago, today there are more young brides entering their fertile years than leaving them by death or reaching menopause. So you have below replacement level fertility, yet its population increases by 7 million annually. There are also lots of countries in Africa, in which the population momentum is very powerful, and it's going to stay that way for many decades.

There is good news if we look to the end of the century. The UN population, median projection for 2100 is 10.9 billion. On average, if everyone had half a child fewer, we would end up with a global population of 6.8 billion - fewer people than we have now. If everybody had half a child more, we'd end up with 16 billion - clearly totally unsustainable. As somebody who has spent a lifetime focused on family planning in many different countries, I believe that if you respect people and if you make family planning choices realistically available, preferably also including access to safe abortion, then you can slow population growth. I think 6.8 billion is achievable.

John Nongaarts points out that at the present moment, the OECD estimates that a mere 1% of total foreign aid (mainly from the USA, Japan and Europe) goes to family planning. Spending on family planning is extremely cost effective. Moreover, it is an investment not a cost as family planning budgets recover their costs in less health and educational costs than there would have been had the population been larger. We've achieved a lot with that 1%; we could achieve miracles if we could double that to 2%, I believe we could reach the goal of 6.8 billion by the end of the century. Taking family planning from one to 2% of foreign aid does not threaten other development budgets. It's a very, very small change. I think it's achievable. Let's agree to make it a priority for the MAHB.

GH - How important is gender equality to the process of building a sustainable future?

MP - As a gynecologist, I prefer the term 'women's autonomy.' I've worked all over the world, and I've seen a lot of suffering when women cannot get access to family planning and safe abortion. I believe, passionately, that all women have an unfettered right to decide about their own health and pattern of reproduction. If we all work to ensure that right then we can achieve some of the goals we just talked about, like having a level population by year 2100. There are about **80 million unintended pregnancies annually. If we could just get rid of unintended pregnancies, we could greatly slow population growth today.** Family planning is not telling women what to do, it's listening to what they want. If we respect women, we can lower birth rates in places with high fertility. If we had more money we could focus on better supporting family planning.

There are a lot of crazy patriarchal people hell bent on denying women access to modern contraception and safe abortion. There are also a lot of enlightened people in the world. I'm always inspired by colleagues in developing countries who work so hard and sometimes take risks (I had one friend murdered because she was a leader in family planning), to give women and men the reproductive freedoms that are their birthright.

GH – Would ‘dignity for all’ and ‘shared responsibility for the biosphere’ be worthy fundamentals for building a sustainable human society?

MP - There's a simpler way of putting it. It is the essence of the 1983 Brundtland report on sustainability:

“Sustainable development is the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

This is that we don't overuse resources today that our children and grandchildren will need tomorrow. To put it bluntly, we are stealing from our children and grandchildren. We are creating a world with untenable atmospheric warming, and massively depleted non-renewable resources. That is theft from the next generation. I can't think of any more despicable theft for human beings than to steal from our children and grandchildren. Our goal must be to avoid thoughtless consumption. We must avoid undermining the opportunities and resources that our children and grandchildren are going to need. That has been the goal of all parents since the dawn of time.

GH - Can you talk about population density and its impact on managing contagions like Ebola?

MP – Certainly diseases spread more rapidly in big cities. A hundred years ago, 3% of the world's population died of influenza. That disease spread rapidly in big cities and in military camps. Today, I think it's mostly poverty, not density that is constraining how we respond to infectious disease. The threat of Ebola and other infectious disease is most challenging in very poor countries that have limited resources.

It's always possible, where we may have some totally new infection coming along, or a very strange virus that can be mutating in pigs and birds and other animals. We have to stay alert to those dangers. Bad things can happen in poor countries. We also don't put enough resources in very rich countries to prepare for unexpected epidemics.

It is also important to remember that as we struggle to feed an estimated 9.85 billion people in 2050, that we are likely to see more and more short cuts. We will feed more pigs antibiotics – creating antibiotic resistance for ourselves. We will have a greater weight of chickens in houses than wild birds in the environment – making mutations in viruses that could be lethal to us more likely.

GH – Throughout your career, how have you seen young people engage in population conversations? How can we open up the population conversation with teens and young adults in places that are conservative in their view of gender and sexuality?

MP - A good question; my starting point is that those engaged on the population issue tend to be older people. But we are the generation leaving young people some truly dire threats: global warming, economic growth that is benefiting the few instead of the many; the proliferation of weapons of mass destruction. Young people are going to have to solve these problems. Fortunately, I think they're capable of solving them. In my teaching, I don't tell undergrads what to do. I see my role as building a temporary scaffold on which they can build solid, lasting solutions. We need universities to put more emphasis on helping young people get the facts they need, and to filter out the fake news from the real news. Then, we have to trust them to respond sensibly, which I'm convinced they will do.

GH - You've spent decades encouraging contraception programs and girls education programs around the world. If you were to continue working for another five decades, what would you focus on?

MP - I would focus on what one of my colleagues calls 'where the rubber hits the road'. The Sahel, the semi-arid region below the Sahara Desert, will be the first region of world where the population is really going to exceed the natural resources - with enormously painful results. In 1798, an English clergyman wrote:

"Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. A slight acquaintance with numbers will show the immensity of the first power in comparison with the second." (Thomas Malthus 1798)

If we look at statistics from the African nation of Niger, over the past several decades the population has been increasing geometrically and grain production arithmetically. By the middle of this century, more people than live in the United States of America, will be watching their crops wither and cattle die from lack of food and water, in the Sahel region.

Because of this there will be unprecedented levels of involuntary migration. The educational system can't keep up with the rapid population growth and there is no plausible way that countries can produce millions of jobs. For good reasons, poorly educated people with no job opportunities will migrate and look for a better life. The level of migration today, which has already become so threatening that previously liberal European democracies want to build barriers and keep migrants out. What's happening now will be seen as a trickle in relation to the tsunami of people coming in a few decades time.

It is imperative that large scale action is taken now to help farmers adapt to climate change, improve access to family planning and keep girls in secondary school. Unfortunately, human institutions have an exceedingly disappointing record of looking even a few decades ahead. When I was running Family Health International in the 1980s, we won the first – and at the time only - USAID money to try and slow the spread of HIV AIDS in Africa. If I'd had a budget equivalent to what the international community is now spending on HIV/AIDS, we might have slowed AIDS in Africa. As it was, we made absolutely zero difference to the epidemics that were to kill 30 million and leave 30 million carrying the virus. It breaks my heart to think we're going to make an even bigger mistake in the Sahel.

GH - Some people believe that artificial intelligence and other advanced technologies will solve the world's problems, others are convinced that we are headed for civilization scale collapse. How do you see our story playing out?

MP - I think it is possible that we can ameliorate many of the worst global scale challenges. Civilization is not going to become extinct. We do live in a very dangerous world. We need scientific solutions, and we need to take sensible steps like the ones I've just been talking about to give women choices. And we must slow population growth in a human rights framework by meeting the proven unmet need for family planning.

There are some good things likely to happen in the lifetime of today's undergrads. We will probably get non-polluting nuclear fusion by 2100 or before. We may put nitrogen fixing bacteria in the roots of rice, and wheat. We could genetically modify plants so that they would help Africans adapt to climate change.

The largest number of scientists ever alive are living now. Science is international and intrinsically democratic. On the whole, scientists trust each other and they're willing to work together. That part of the story of the world is optimistic. But the threats are so dire, we need the optimistic scientific advances along with plenty of good common sense.

GH - You teach an undergrad class at UC Berkeley called *Sustainability 101 - Opportunities and Challenges* where you argue your baby boomer generation is responsible for many of the world's challenges. You say that millennials and Generation Xers may be the last who are able to correct humanity's colossal mis-steps that threaten life on Earth. How do we motivate these younger generations to be the change the world sorely needs?

MP – This class is a different way of teaching, vertical learning, a team effort by faculty, GSIs and undergraduate Teacher Scholars (TS). First, we train undergraduate Teacher Scholars and mentor them as discussion leaders. PH 101 is a partnership. It is not me as faculty standing behind a podium and telling students, “This is what you have to learn.” It me and my colleagues from across the campus talking about particular problems, such as climate change, conflict or managing an economic system that depends on perpetual growth in a finite world. Given the facts we know about a topic, the students then lead the discussion sections to explore what the information means to them and, more importantly, what they want to do about it. As the semester unfolds, the students complete Capstone projects where they explore a topic in depth.

In all honesty, I can say that the Capstone I heard at the end of the pilot course was the most rewarding experience I've had in over 20 years, teaching at Cal or several years at Cambridge. The presenters were creative, realistic, and empathetic to people's suffering. To take one example, one team chose the loss of bees to pollinate the things we eat. They found a picture of some large grocery store like Safeway with neatly stacked piles of food. Then they had the same picture with every single food requiring bee pollination taken away. Wow, largely empty shelves. Undergraduates are good at capturing the essentials.

My long term dream is to see a course similar to *A Sustainable World* developed in many different universities. I'm convinced the conversations that would take off from these courses would benefit teachers and students. Today's students are the first generation to face a genuinely existential set of problems and they are also the last ones to solve them.

We must recognize we are citizens and citizens have choices, sometimes tough choices. I've seen undergraduates grapple with these choices creatively and intuitively. Many of the MAHB members have been, or still are university teachers. It would be great to see Sustainable World type courses formalized, promoted and multiplied.

Malcolm Potts, MB, BChir, PhD, FRCOG, holds the Bixby Endowed Chair at the University of California, Berkeley where he established the Bixby Center for Population, Health and Sustainability. A British, Cambridge-trained obstetrician and biologist, Dr. Potts has worked internationally since the late 1960s, when he became the first medical director of the London-based International Planned Parenthood Federation. He has led collaborative research in family planning, contraceptive development, and HIV prevention in 40 countries. Dr. Potts has written 12 books and published over 350 articles and papers.

MAHB Dialogue November 27, 2018

Geoffrey Holland is a Portland, Oregon based writer/producer, and principal author of [The Hydrogen Age](#), Gibbs-Smith Publishing, 2007

The MAHB Blog is a venture of the Millennium Alliance for Humanity and the Biosphere. Questions should be directed to joan@mahbonline.org