

Conceiving the Impact: Connecting Population Growth and Environmental Sustainability

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CHAPTER ONE

THE POPULATION PROBLEM

WHY POPULATION?

Paul Ehrlich wrote *The Population Bomb* in 1968, predicting widespread famine by the 1970s and 1980s if population control measures were not adopted immediately. Global population had been rising due to significant decreases in mortality rates that accompanied the Industrial Revolution,¹ and for the first time, in the 1960s the global annual population growth rate was over 2%. Concern about overpopulation and the widespread human and ecological harm population pressure would cause gained a large following. *The Population Bomb* sold over one million copies in less than two years² and Zero Population Growth (ZPG), the population stabilization organization that Ehrlich founded in 1968, grew from 100 members in May 1969 to 3,500 in January 1970 to 36,000 by May 1971.³ Overpopulation was emphasized as a key environmental problem at the first Earth Day in 1970.

The logic motivating Ehrlich's fear is best summarized in the I=PAT (pronounced "i-pat") formula. Ehrlich, a Stanford professor of conservation biology, and John Holdren, then a graduate student at Stanford and now Director of the White House Office of Science and Technology Policy, proposed in 1971 that environmental impact (I) equals population (P) times affluence/consumption (A) times technology (T). The formula assumes that increased affluence yields greater consumption, although the link is not precisely defined. Any increase in either

¹ John D. Durand, "Historical Estimates of World Population: An Evaluation" *Population and Development* 3, no. 3 (September 1977).

² Alexandra Minna Stern, *Eugenic Nation* (Berkeley: University of California Press, 2005), 127. Ballantine Books, the publisher, could not confirm this number because they do not keep records back that far, but there is no reason to think it is incorrect.

³ Larry Barnett, "Zero Population Growth, Inc.," *Bioscience* 21, no. 14 (15 July 1971): 759, <http://www.jstor.org/stable/1295945>.

population or consumption raises environmental impact, while an improvement in technology can increase or decrease environmental impact.⁴ I=PAT illustrates the interconnection of population and consumption in environmental impact, and the connection Ehrlich and others emphasized in the 1970s.

In recent years, despite growing concerns about ecological sustainability and the dangers of climate change, population growth has been banished from public discussion. The logic of the I=PAT formula remains valid, but population growth has become enmeshed with such a problematic history that it no longer plays a substantial role in the strategies or talk of the environmental movement. According the popular definition from the 1987 World Commission on Environment and Development's report, *Our Common Future*, "sustainable development" is development which "meets the needs of the present without compromising the ability of future generations to meet their own needs." The report acknowledges that this "concept of sustainable development does imply limits," although not fixed limits.⁵ From the outset, sustainability has been fueled by the impossibility of imagining the optimum state for humans on Earth without thinking about the natural environment in which they live. Yet the question of how many humans there are and how their reproduction affects this relationship has largely dropped out of these discussions. This thesis traces the history of, as well as some of the reasons for, the ascent and then silencing of population growth as a key factor in discussions of environmental sustainability.

⁴ Paul Ehrlich and John Holdren, "Impact of Population Growth," *Science* 171, no. 3977 (26 March 1971): 1212-1217, <http://www.jstor.org/stable/1731166>. For the environmental impact of technology, think of the difference in carbon emissions between coal-fired power plants and solar panels.

⁵ Gro Bruntland, ed, *Our Common Future: The World Commission on Environment and Development* (Oxford: Oxford University Press, 1987) § 3 and 27, <http://www.un-documents.net/ocf-ov.htm#I.3>.

POPULATION GROWTH IN NUMBERS

Despite environmentalists' reluctance to be identified with the population issue, scientific studies of climate change are beginning to include the role of population growth again. Population growth forms part of the context (along with economic and technological assumptions) for scientists' projections of the climate's future. Climate models describe the consequences of continued emissions of greenhouse gases both in terms of the expected parts per million (ppm) of greenhouse gases in the atmosphere and the associated temperature increase.⁶ The Intergovernmental Panel on Climate Change (IPCC), the principal scientific body assessing climate change scenarios,⁷ described the effects of climate change in its 2007 Fourth Assessment report. The report stated that climate change is "unequivocal"⁸ and will likely cause climbing land and ocean temperatures, leading to rising sea levels, melting glaciers, receding ice and snowpacks, intensifying heat waves and droughts, more frequent tropical storm activity and floods, the spread of insect-borne disease, changes in human and animal habitats, and irreversible species extinction. Climate disruption is also predicted to reduce the agricultural yields, impair the viability of natural resources, and undermine the habitability of many regions.⁹

Most climate scientists and about 50 American environmental, science, and faith-based organizations support the "2°C guardrail" approach, which proposes the goal of limiting the rise

⁶ Greenhouse gases are so named because in the atmosphere they act like the glass of a greenhouse letting in visible light energy, but retaining the infrared heat energy radiating off the Earth's surface. The most common greenhouse gas is carbon dioxide, mostly emitted by the burning of fossil fuels and by deforestation. Others include methane, nitrous oxide, and numerous more complex chemicals.

⁷ The United Nations Environment Programme and the World Meteorological Organization founded the IPCC to provide "a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts." It was awarded the Nobel Peace Prize in 2007. "Organization," Intergovernmental Panel on Climate Change, <http://www.ipcc.ch/organization/organization.shtml>.

⁸ IPCC, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, written by The Core Writing Team and edited by R.K. Pachauri and A. Reisinger (Geneva: IPCC, 2008), Chapter 1, http://www.ipcc.ch/publications_and_data/ar4/syr/en/spms1.html.

⁹ IPCC, *Climate Change 2007*, Chapter 3.

in global mean temperature to no more than two degrees Celsius over pre-industrial levels in order to avoid dramatically changing the ecosystems of the planet.¹⁰ This translates to a limit of about 350 ppm carbon dioxide in the atmosphere.¹¹ The current atmospheric carbon dioxide concentration is 391 ppm.¹² James Hansen, Director of the NASA Goddard Institute for Space Studies and a prominent climate scientist, put it bluntly: “If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, ... CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm.”¹³

Translating these projections into mitigation numbers, the State of the World Population 2009 report by the United Nations Population Fund (UNFPA) suggested that achieving the low UN population projection of 8 billion people instead of the medium projection of 9 billion people could avoid 1 to 2 billion tons of carbon emissions per year by 2050.¹⁴ A 2010 study by Brian O'Neill, a scientist at the National Center for Atmospheric Research, established that “slowing

¹⁰ Kate Sheppard, “47 groups urge Obama to endorse 2-degree C warming threshold,” *Grist*, 1 July 2009, <http://www.grist.org/article/2009-07-01-obama-two-degrees/>.

¹¹ Greenhouse gas emissions are generally discussed either in terms of metric tons of carbon emissions or of carbon dioxide emissions. Since the molecular weight of CO₂ is 44, which is 3.67 times that of carbon (12), the two can be easily correlated. Since different greenhouse gases have different climate changing potential, emissions of other gases are often measured in terms of their carbon dioxide equivalent. For example, a ton of nitrous oxide would count as 310 tons of CO₂ pollution. Current worldwide emissions are about 30 billion metric tons or gigatons of carbon dioxide, which is slightly over 8 gigatons of carbon.

¹² Pieter Trans, “Trends in Atmospheric Carbon Dioxide,” NOAA/EARL, last modified February 2011, Table: “Recent Monthly Mean,” www.esrl.noaa.gov/gmd/ccgg/trends/.

¹³ James Hansen, Makiko Sato, Pusher Kharecha, David Beutling, Robert Berner, Valerie Masson-Demotte, Mark Pagan, Maureen Raymo, Dana L. Royer and James C. Zach's, “Target atmospheric CO₂: Where Should Humanity Aim?” *The Open Atmospheric Science Journal* 2 (2008): 217, <http://benthamscience.com/open/openaccess.php?toascj/articles/V002/217TOASCJ.htm>.

¹⁴ UNFPA, *State of the World Population 2009: Facing a changing world: women, population and climate*, written by Robert Engelman (United Nations Population Fund: 2009), 25-26, <http://www.unfpa.org/swp/2009/en/overview.shtml>. The United Nations produces population projections for 2050, with a low, medium, and high variant. The low variant is 8 billion, the medium is 9 billion, and the high variant is 10.5 billion people. The constant fertility variant, meaning the population were the present fertility trends to continue until 2050, is 11 billion. World Population Prospects, the 2008 Revision (New York: United Nations Department of Economic and Social Affairs, 2009), Figure 1: “Population of the world,” http://esa.un.org/unpd/wpp2008/fig_1.htm.

These numbers are in terms of carbon, not carbon dioxide, emissions as many scientific studies are. Thus, for these scientific studies, this thesis leaves the numbers in terms of carbon, although later in terms of per capita emissions, it uses exclusively carbon dioxide emissions, which is a more common measure of per capita emissions.

population growth could provide 16-29% of the emissions reductions suggested to be necessary by 2050 to avoid dangerous climate change.”¹⁵ In another study, O’Neill looked at 800,000 households in 35 countries to demonstrate that slowed population growth could save 1.4 to 2.5 billion tons of carbon emissions per year by 2050, with half of that reduction coming from improved access to family planning in high population growth areas.¹⁶ He concluded that “slower population growth can’t solve the climatic problem, but it can certainly help.”¹⁷ Drawing on the emissions reduction terminology of “stabilization wedges”—each representing one gigaton of carbon emission reduction—from a seminal 2004 article in *Science*,¹⁸ these studies suggest that voluntary family planning could provide one of the seven stabilization wedges necessary to reduce emissions growth by 2050.¹⁹

Climate change is a top concern for many of the least developed countries (LDCs). Many of the most negative consequences of climate change will occur in countries that are already poor, often because of harsh climates, soils or habitats. These areas include the Arctic (vulnerable to dramatic climatic changes at the pole and structural changes to permafrost and sea ice), Africa (because of increasing scarcity of already-scarce resources, including water and fertile soil), small islands (which will be flooded by sea level rise), and Asian and African

¹⁵ Brian O’Neill, Michael Dalton, Regina Fuchs, Leiden Jiang, Shonali Pachauri, and Katarina Zigovad, “Global demographic trends and future carbon emissions,” Proceedings of the National Academies of Sciences, 11 October 2010, <http://www.pnas.org/content/early/2010/09/30/1004581107.full.pdf+html>.

¹⁶ Dan Asin, “New Research on Population and Climate: The Impact of Demographic Change on Carbon Emissions,” Woodrow Wilson International Center for Scholars Environmental Change and Security Program, Events Summary, 8 April 2010, http://www.wilsoncenter.org/index.cfm?fuseaction=events.event_summary&event_id=605318.

¹⁷ Brian O’Neill quoted in Asin, “New Research on Population and Climate.”

¹⁸ S. Pacala and R. Socolow, “Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies,” *Science* 305, no. 5686 (13 August 2004): 968 – 972, <http://www.sciencemag.org/content/305/5686/968.full>. The “stabilization wedge” has become a common shorthand for measuring the climate change mitigation potential of various technologies. Seven stabilization wedges (between the business as usual trajectory and the completely stabilized emissions trajectory) are necessary in the next 50 years to avoid the doubling of the pre-industrial atmospheric carbon dioxide concentrations. One stabilization wedge represents the reduction of 1 gigaton of carbon per year.

¹⁹ UNFPA, *State of the World Population*, 25-26. This is equivalent to constructing 2 million 1-megawatt wind turbines to replace coal-fired power plants.

megadeltas (because of high population density and exposure to sea level rise and floods).²⁰ Even in wealthier regions, the poor, young, and elderly are “particularly at risk” because “vulnerability to climate change can be exacerbated by other stresses” of the kind that poor populations already endure.²¹

The developing world, especially LDCs, already have adopted measures to slow population growth. Their policy statements suggest an awareness that population stabilization would help them adapt better to climate change. A 2009 article in the Bulletin of the World Health Organization evaluated 40 National Adaptation Programmes of Action (NAPA) reports from developing countries. The goal of these NAPAs is to “identify and articulate their priorities for climate change adaption.”²² 93% of the NAPAs identified concern about the impact of rapid population growth on their ability to adapt to climate change in at least one of the following ways: faster degradation of natural resources; increased demand for scarce resources; and heightened human vulnerability to extreme weather events.²³ Six of the countries listed curbing rapid population growth as their first adaptation priority.²⁴

Climate change will damage developed as well as developing countries. In addition to the numerous physical impacts noted above, an altered world climate would lead to fundamental human rights abuses that would reverberate around the globe. First, climate change will destroy certain groups’ or communities’ ability to exist as a nation. As climate change causes sea level rise, small Pacific Islands will be flooded and within the century will be entirely under water. With the destruction of their nation, these Pacific Islanders will be forced to move as homeless

²⁰ IPCC, *Climate Change 2007*, Chapter 3.

²¹ IPCC, *Climate Change 2007*, Chapter 4.

²² Leo Bryant, Louise Carver, Colin Butler, and Ababa Manage, “Climate change and family planning: least-developed countries define the agenda,” *Bulletin of the World Health Organization* 87 (September 2009): 853, <http://www.who.int/bulletin/volumes/87/11/08-062562/en/>.

²³ Bryant et al, “Climate change and family planning,” 852.

²⁴ Bryant et al, “Climate change and family planning,” Table 1.

refugees. To dramatize the gravity of the risk, on October 17, 2009, the government of the Maldives, an island nation only seven feet above sea level and one of the first to flood if oceans continue to rise, held a cabinet meeting underwater in scuba suits.²⁵ In February 2011, the President of the Seychelles, James Alix Michel, referred to this new human rights dilemma—the violation of islanders’ “right to exist as a people, as a country, [and] as a nation”—as a crime against humanity.²⁶

Second, climate change will make the basic resources necessary to health and life, such as firewood, food, and most crucially, water, scarcer and more expensive.²⁷ (These two factors are related but will affect different groups: resource scarcity will first hurt rural subsistence farmers, while higher prices will impair the urban poor.) As demand for necessities increases and as natural disasters intensify, the risk of political and social disruption magnifies. These risks may be most severe in LDCs, but can occur in the most advanced countries, as witnessed by the breakdown of political and social order in New Orleans after Hurricane Katrina in 2005. The hurricane and its aftermath killed about 1,800 people, caused 100 square miles and \$75 billion of destruction, and left thousands without homes or jobs for years.²⁸ Looting was common in the following months, as the police force and governing infrastructure fell apart.²⁹ If

²⁵ “Maldives cabinet makes a splash,” *BBC News*, 17 October 2009, <http://news.bbc.co.uk/2/hi/8311838.stm>.

²⁶ James Alix Michel, “Speech By James Alix Michel, President of the Republic of Seychelles, On the Occasion of the Opening Session of the Delhi Sustainable Development Summit,” New Delhi, 3 February 2011, http://www.statehouse.gov.sc/index.php?option=com_content&view=article&id=472:speech-by-james-alix-michel-president-of-the-republic-of-seychelles-on-the-occasion-of-the-opening-session-of-the-delhi-sustainable-development-summit-new-delhi-3rd-february-2011-&catid=35:speeches&Itemid=64.

²⁷ See, for example, Paul Krugman’s piece which suggests that “global warming has something to do with the food crisis.” Paul Krugman, “Droughts, Floods and Food,” *New York Times*, 6 February 2011, <https://www.nytimes.com/2011/02/07/opinion/07krugman.html?scp=58&sq=krugman&st=cse>.

²⁸ “Get the Numbers,” *Discovery Channel Feature*, <http://dsc.discovery.com/convergence/katrina/facts/facts.html>.

²⁹ After Hurricane Katrina, looting “broke out as opportunistic thieves cleaned out abandoned stores.” That same night a “police officer was shot and critically wounded.” A Colonel described the looters as “large groups of armed individuals.” Joseph Treaster and N.R. Kleinfield, “New Orleans Is Now Off Limits; Pentagon Joins in Relief Efforts,” *New York Times*, 31 August 2005, <https://www.nytimes.com/2005/08/31/national/nationalspecial/31storm.html?scp=1&sq=looting%20hurricane%20katrina&st=cse>. A day later, another article explained that “the rule of law, like the city’s levees, could not hold out

natural disasters occur frequently, the destruction of governance capacity in the hard-hit regions may return them to the state of nature in which Thomas Hobbes described life as “poor, nasty, brutish, and short.”

TENSIONS IN POPULATION POLICY

The risks associated with climate change suggest that limiting its causes, including population growth, should be a top priority. But, despite its qualitative and quantitative importance, population growth has fallen entirely out of favor in environmental—and other—policy discussions. None of the United Nations Framework Convention on Climate Change (UNFCCC) agreements, the primary international treaties on climate change, mention the word population.³⁰ Neither the American Clean Energy and Security Act of 2009, which was passed in the House of Representatives (H.R. 2454), nor the various drafts of the comparable Senate bill included provisions about population growth alone or in environmental terms.³¹ As population growth has left the conversation, “so has the interaction between population growth and environmental sustainability.”³²

The hesitancy to address population growth does not come from a scientific consensus that population growth is irrelevant to environmental sustainability—indeed scientific studies

after Hurricane Katrina.” Many “people with property brought out their own shotguns and sidearms.” Felicity Barringer and Jere Longman, “HURRICANE KATRINA: LAW ENFORCEMENT; Owners take Up Arms as Looters Press Their Advantage,” *New York Times*, 1 September 2005, <http://query.nytimes.com/gst/fullpage.html?res=9D02E7DA1731F932A3575AC0A9639C8B63&&scp=4&sq=looting%20hurricane%20katrina&st=cse>.

³⁰ The *ZPG Reporter* states that “population was not discussed directly in the Kyoto Negotiations,” (“Population Growth Overlooked as a Cause of Rises in Greenhouse Gases,” *The ZPG Reporter* 3, no. 1 (February 1998), 5.) and Andrew Revkin reports that it was not mentioned in Copenhagen. Andrew Revkin, “The Missing ‘P’ Word in Climate Talks,” *Dot Earth* (blog), *New York Times*, 16 December 2009, <http://dotearth.blogs.nytimes.com/2009/12/16/the-missing-p-word-in-climate-talks/>.

³¹ Staffer at Senator John Kerry’s Office, in interview with the author, 16 June 2010. The two bills were the Kerry-Lieberman “American Power Act” and the Bingaman “American Clean Energy Leadership Act.”

³² Joseph Speidel, D.C. Weiss, S.A. Ethelston and S.M. Gilbert, “Population policies, programmes and the environment,” *Philosophical Transactions of the Royal Society B: Biological Science* 364, no. 1532 (2009), 3059.

continue to stress the variable's importance—but rather from the perceived cultural, ethical and political infeasibility of raising the topic. People fear that targeting population growth could lead to controls on how many children a family can have, and, over time, how many people of certain groups can exist at all. Rights activists worry that such a debate would undermine women's rights to reproductive health and freedom. Non-white races worry that population policy would target them in order to reduce their numbers. And those opposed to birth control or abortion fear the possible increased justifications for their use.

Population growth creates a binary as well between the developing and developed worlds. Most population growth in the next 50 years will occur in today's economically less developed regions,³³ so emphasizing the role of population growth in increasing greenhouse gas emissions shifts the responsibility for action to the developing world. But consumption affects emissions as well, and by far the largest per capita consumption occurs in the developed world.

In a thought experiment posed on his blog, Andrew Revkin, a *New York Times* blogger and senior fellow at Pace University, emphasizes the need for a holistic understanding of sustainability. In 2010, the average American was responsible for emissions of 20 metric tons of carbon dioxide per year. The average Briton consumed 10 metric tons, the average Chinese 3.8, and the average Indian 1.2. The sum of global carbon dioxide emissions by 6.6 billion people in 2010 was about 29 billion tons. If all the people in the world consumed at the British level (reducing U.S. emissions by about 50%), it would result in 66 billion tons emitted per year, over twice the current rate. If everyone consumed at the American level, it would result in 132 billion tons per year.³⁴ In another post, Revkin calculates that, in a world with 9 billion people who each consume the European target of 6 tons of carbon dioxide emissions per person per year, total

³³ Joel Cohen, "Human Population Grows Up," *Scientific American* 293, no. 3 (September 2005): 49.

³⁴ Andrew Revkin, "Imagine Everyone Was Equal, in Emissions," *Dot Earth* (blog), *New York Times*, 15 February 2008, <http://dotearth.blogs.nytimes.com/2008/02/15/imagine-everyone-was-equal-in-emissions/>.

emissions would be 54 billion tons a year.³⁵ Emissions at this level would dramatically increase climate change and likely lead to irreversible impacts. These predictions emphasize the close coupling of population growth and consumption in environmental sustainability—at 9 billion people, the per capita emission must be below those of today’s average Indian to achieve a healthy climate.

The developed/developing world tension is an important impediment to an international agreement on anthropogenic greenhouse gas emissions. The Kyoto, Copenhagen, and Cancun climate negotiations failed to produce binding treaties with widespread uptake in large part because each side wanted to ensure that the other took adequate responsibility. The developed countries (especially the United States) vowed that they would only sign a treaty that acknowledged the huge future emissions of the developing world, while the developing countries emphasized the developed world’s historical emissions. Trying to include population growth in these negotiations could complicate them even more.

Considering population growth as an environmental problem also exacerbates American political tensions. Domestic population growth relates to the hot-button topic of immigration. Many conservative Christians resist policies supporting contraceptives and vehemently oppose all forms of abortion. Family planning services are considered a Trojan horse for abortions. Inspired by conservative Christian doctrine, the current Republican majority in the House of Representatives has vowed to eliminate any public funding or tax dedications for abortions, as well as to limit the legal justifications for privately funded abortions. Businessmen, capitalists, and the politicians who depend on them fear the economic stagnation they believe population stabilization would cause through population aging, reduced demand for products, and the

³⁵ Revkin, “The Missing ‘P’ Word.”

inability to fund entitlement programs. They too have significant funds and political influence with which to encourage growth-oriented policies.

Instead of addressing these concerns, most environmentalists have chosen to advance the less controversial goal of improving and increasing the technologies that reduce the emissions to consumption ratio. The clean technology scenario seems to present a win-win situation because all those who benefit from economic growth and high consumption will continue to benefit, but the environmental costs of such consumption will be reduced. But clean technology can only stretch the limits of sustainability; it alone cannot create an environmentally sustainable world for all people, their children, and grandchildren.³⁶ Diluting the idea of sustainability to encourage a consensus is not a feasible strategy when this excludes two major elements of environmental degradation. This is why discussions of sustainability converge on the need to consider population growth and consumption together, as well as advances in green technology.

THESIS OUTLINE

This thesis examines how the concept of managing population growth, along with consumption, can be inserted back into the discussion of sustainability, as logical analysis suggests it ought to be. Sustainability is regarded today as the most promising concept to counter climate change. But to achieve that goal, the silence on population growth in discussions of sustainability can no longer be maintained, as the numbers cited above indicate.

The fractured history of population stabilization policy reveals the tensions raised in connecting population growth to environmental sustainability. Eugenic methods, coercive population control programs, violations of human integrity and more specifically of women's

³⁶ Indeed, some argue, following the so-called Jevons Paradox, that increased energy efficiency actually increases energy consumption by freeing up more for additional purchases.

rights, have raised questions about the benefits and motives underlying such policies. Conservative Christians and others have emphasized the high moral cost and capitalists the high economic cost. Chapter 2 follows this contentious history of the American and international population movements. Chapter 3 examines the moral concerns around implementing population stabilization policy and Chapter 4 examines the political barriers that are raised by immigration advocates, demographers, conservative Christians, and growth-proponents.

As a conclusion, the final chapter proposes a new framework that could bring population size and growth back into a position of legitimacy, considering both the moral and the political impediments. It is based on the translation of the $I=PAT$ formula into the $I=PC_C$ formula, which states that environmental impact (I) equals population (P) times consumption of carbon (C_C). This new formula avoids the historical, moral, and political barriers that have coalesced around $I=PAT$, while making more direct the relationship between population growth and consumption that $I=PAT$ implies.

Overall, this thesis seeks to make incremental progress to clarify two sets of impediments to a balanced approach to population growth. The first are the abstract moral concerns, supplemented by actual experiences, for being wary of incorporating population growth into sustainability. The second are the powerful political and institutional barriers to curbing population growth. Both are strongly grounded in the history of the American and international population movements. That history, whose main outlines the next chapter presents, illustrates the people, policies and problems intertwined with the population movement over the years.

METHODS

My research consists of informational interviews with population experts, participant-observation at a population organization, and extensive reading of both primary and secondary

sources on the history, ethics, and challenges of population movement. In the course of my research, I conducted 23 informational interviews with experts from population organizations, environmental organizations, and women's rights groups; independent authors; governmental workers; and American and English political representatives.

I interned at Population Connection (formerly Zero Population Growth or ZPG) in Washington, DC. There I did archival research on ZPG's newsletters dating from its founding in December 1968. These newsletters have not been previously published or studied. I explored the population archives of the Audubon Society as well. There I also attended a monthly Population-Health-Environment (PHE) meeting, the "Women Deliver" conference on women's health, Population Connection's Board Meeting, and a Wilson Center event on population in Pakistan. At all of these meetings and during my internship, confidentiality issues arose related to my status as a participant-observer and these limit the information I can quote. The experience gave me access, though, to the tone, idiosyncrasies, and strategies of the various movements. My long-standing connection to the environmental movement, and especially to the high-level strategy concerns of a prominent American environmental organization, has given me this perspective as well.

I then interned at the University of Sussex's Institute of Development Studies in Brighton, UK. While there, I attended the Royal Society's Population Policy Lab, which launched its inquiry into the subject during the period of my visit to the UK, and spoke with the presenters. I interviewed, among others, the Green Party campaign manager for England because the Green Party includes population stabilization in its platform.

In October, I attended and presented a speech at the Population Strategy Meeting, an annual meeting of population and environment experts about how to solve the issue of

population. This gave me an opportunity to hear major players, including Paul Ehrlich, respond to my early conclusions.

CHAPTER TWO

HISTORY OF THE POPULATION MOVEMENT

THEMES AND TURNING POINTS

Beginning in 1798 with the publication of Thomas Malthus' *Essay on the Principle of Population*, which suggested that population growth would cause widespread famine, debate has raged within and against the population movement. In this thesis, the “population movement” includes the various campaigns, programs, social groups, and organizations that aim to curb, stabilize, or invert population growth, nationally or globally. Population policy refers to policies and programs with any of these goals.¹ The oscillation between Malthusian and anti-Malthusian logics defines the population debate. These labels have become shorthand for the tension between minimizing the systemic impacts of aggregated individual choices on the one hand and protecting individual, often intimate, rights on the other. There has been a wide range of policies which calibrate the balance between these two goals.

Unequal power dynamics have also characterized the population movement. Developing countries with non-white populations tend to have rapid population growth, while developed countries often fund international population controls. Women have tended to be the target of population programs. These demographic and biological factors yield uneven power relationships in policy discussion and implementation.

Four turning points divide the history of the population movement. Malthus started the apocalyptic phase, which claimed that explosive population growth would cause famine and

¹ Since “no scientific estimates of sustainable human population size can be said to exist,” (Cohen, “Human Population Grows Up,” 50) population growth is a more accurate term than overpopulation, which suggests the existence of defined limits. Population growth is the term favored in the past fifteen years.

resource scarcity. Improvements in agriculture and farming techniques in the nineteenth century staved off the hunger; this rescue was deemed to disprove Malthus. Ehrlich reintroduced Malthusian logic to Western environmentalism in 1968, shifting the emphasis to environmental ruin. Neo-Malthusian logic monopolized the resulting population movement, driving governments to set demographic targets and implement population programs. The orthodoxy of the 1970s and early 1980s was that rapid population growth undermined economic development and the supply of natural resources, so slowing population growth should be a top political priority.

In the 1980s, the Green Revolution, which increased the global supply of food, along with revisionist economic theories celebrating population growth, deemphasized population control policies. Catholic opposition influenced this shift in American policy as well. The 1994 Cairo Conference changed the movement again, pushing the terms even further from demographic targets to meeting individual women's unmet need for contraception. The declarations from Cairo reoriented the need for individual family planning away from the population movement to women's empowerment.

The final turning point is the nascent discussion reconnecting population growth to environmental degradation today, this time as a measure for climate change mitigation and adaptation. Because of its focus on the disastrous environmental consequences of population growth, this in some ways marks a return to Malthusian logic. But it moves beyond earlier formulations by respecting the individualistic framework produced by the Cairo Conference. Despite this new interest in population stabilization, as Chapter 1 indicates, the population movement remains at the margin of debates about environmental sustainability.

MALTHUSIAN LOGIC

Thomas Robert Malthus, an upper-class English priest, economist, and demographer from the eighteenth century, instigated the modern debate about population growth. He published *An Essay on the Principle of Population* in 1798,² in which he argued that “the power of population is indefinitely greater than the power in the earth to produce subsistence for man” because “[p]opulation, when unchecked, increases in a geometrical ratio,” but “[s]ubsistence increases only in an arithmetical ratio.”³ In formulating this generalization, Malthus noted, first, that humans must eat and, second, that sexual desire exceeds the reproductive need for it. Therefore, overpopulation occurs when the slowly growing food supply can no longer feed the rapidly increasing number of people. Malthus foresaw two solutions: “positive checks,” which would kill off part of the existing population through plagues, famines, or other resource shortages, and “preventative checks,” which included any measures designed to reduce birth rates. In the late eighteenth century, the main preventative check was marriage at a later age.⁴

To Malthus, population growth was a problem for lower classes. Welfare and poor laws “tend to depress the general condition of the poor” by providing enough food to sustain them, thus giving them the opportunity to reproduce, without offering them enough food for their enlarged families to thrive.⁵ Malthus appreciated that the poor’s “want of proper and sufficient food, from hard labour and unwholesome habitations” would serve as “a constant check to incipient population.”⁶ Thus, he recommended the “abolition of all the present parish laws,”⁷ the most reliable support to poor Englishmen. The population movement has been plagued by

² He updated and expanded his essay in 1803 and 1817. The essay reproduced is usually the 1817 one.

³ Thomas Malthus, *An Essay on the Principle of Population: The First Edition (1798) with Introduction and Bibliography*, the Pickering Masters, edited by E.A. Wrigley and David Souden (London: W. Pickering, 1986), 5.

⁴ Malthus, *the Principle of Population*, 24-25.

⁵ Malthus, *the Principle of Population*, 32.

⁶ Malthus, *the Principle of Population*, 38.

⁷ Malthus, *the Principle of Population*, 37.

classism since Malthus.⁸

Malthus also defined the fundamental dichotomy of the population debate. “Malthusians” are those who worry that population will increase faster than food supply, while “neo-Malthusians” fear that population growth will overwhelm the environmental capacity of a given area. Opponents of scarcity concerns are “anti-Malthusians,” who point to unfulfilled apocalyptic predictions and the classist bias of Malthus’ essay.

The history of the American eugenics movement provides an important side note to the history of population stabilization. This is not because eugenics affected the demographic composition of America—“the demographic impact of the eugenics movement was essentially nil”⁹—but because the perceived similarity in dictating reproductive control tied eugenics and population control together in public perception. Beginning in 1907, several U.S. states enacted laws permitting forced sterilizations for eugenic purposes. The Supreme Court affirmed the constitutionality of these laws in *Buck v. Bell* in 1927. Fifteen years later, the Supreme Court reexamined forced sterilizations in *Skinner v. Oklahoma*, concluding that in most cases, involuntary sterilizations would undermine “one of the basic civil rights of man.”¹⁰ This ended the practice of forced sterilization in the United States, but sterilization cropped up again in international population control movements, as did the concept of targeting the reproductive

⁸ Malthus also contributed substantially to classical economic thought and evolutionary science with his theory of population. He implied (although he did not articulate it until the fifth edition of *An Essay* in 1817) the principle of diminishing returns. Most importantly, he expressed the problem of scarcity, both of land and of capital, which after Malthus became “the backbone of classical thinking.” Malthus was not the first to address population growth—Montesquieu, David Hume, Adam Smith, and Robert Wallace all offered basic insights about the principles of population—but he most completely considered the implications of population growth for the scarcity of land. Margaret Schabas, *The Natural Origins of Economics* (Chicago: University of Chicago Press, 2005), 105-106. His concept of scarcity also inspired Darwin’s “realization that the pressure of population on scarce resources would generate a fierce struggle for existence,” which led to Darwin’s theory of natural selection. Diane Paul, *Controlling Human Heredity, 1865 to the Present* (NJ: Humanities Press, 1995), 25.

⁹ Paul Demeny and Geoffrey McNicoll, “World Population 1950-2000: Perception and Response,” *Population and Development Review* 32, The Political Economy of Global Population Change, 1950-2050 (2006): 12.

¹⁰ *Skinner v. Oklahoma ex rel. Williamson*, 316 U.S. 535 (1942) § 541.

habits of certain groups.

The Population Movement in the 1950s and 1960s

The first United Nations (UN) World Population Conference occurred in Rome in 1954.¹¹ The goal of this “eminently academic Conference” was scientific: the participants resolved to collect better demographic data about developing countries.¹² Population had piqued the interest of the UN because a new theory, the Demographic Transition Theory (DTT), emphasized the role of social and economic factors in shaping a nation’s population trajectory. DTT proposed “that societies ... [that] experience modernization progress from a pre-modern regime of high fertility and high mortality to a post-modern one in which both are low.”¹³ This transition involves three stages: first, high fertility and mortality rates that balance each other, yielding a steady population size; second, fertility remains high while mortality drops, causing rapid population growth; and finally, fertility rates drop to match low mortality rates and population size restabilizes. Since most developed countries, namely Western Europe and the United States, were already on their way to the third stage of the transition in the 1940s, DTT helped focus population concerns on the developing world.

The Second World Population Conference convened in Belgrade in 1965 during the heyday of international population programs; here the “population control” framework solidified. Experts controlled the agenda and the United States took to the fore, with designs and funds to provide the contraceptives that would reduce fertility rates in the developing world to defined

¹¹ A World Population Conference, inspired by Margaret Sanger, had been held previously in Geneva in 1927. But this conference did not have the official status of a UN World Population Conference. Matthew Connelly, *Fatal Misconceptions: The Struggle to Control World Population* (Cambridge, MA: Harvard University Press, 2008).

¹² United Nations, “Outcomes on Population: World Population Conference,” last modified 2010, <http://www.un.org/en/development/devagenda/population.shtml>.

¹³ Dudley Kirk, “Demographic Transition Theory,” *Population Studies* 50, no. 3 (November 1996): 361.

targets.¹⁴

The theoretical premise of the Belgrade conference was the “orthodox” view of demographics, which supplanted DTT as evidence showed that the European model upon which DTT had been based did not hold in the Third World. The new orthodoxy saw “economic stagnation in the face of rapid population growth, and the need to focus on population stabilization before broader development c[ould] occur.”¹⁵ The rationale swung from “development is the best contraceptive” to “contraceptives are the best development.”

The United States supported the shift to population control in the 1960s, fearing that destabilizing population growth in the Third World would undermine capitalism’s success and thus American political and humanitarian interests abroad. President John F. Kennedy encouraged Congress to pass the Foreign Assistance Act in September 1961 and established the U.S. Agency for International Development (USAID) in November of that year. USAID quickly became (and remains to this day) one of the top funders of population programs worldwide. In addressing population growth, President Kennedy broke decisively with the past. President Dwight Eisenhower summarized the prior position at a press conference in December 1959:

I cannot imagine anything more emphatically a subject that is not a proper political or governmental activity or function or responsibility [than population]. ... If they want to go to someone for help, they should go ... to professional groups. ... This government will not, as long as I am here, have a positive political doctrine in its program that has to do with this problem of birth control.¹⁶

President Eisenhower, intimidated by the Catholic Church, shrank from public responsibility for population stabilization, even though for years private American organizations had been funding family planning programs in the Third World. In the 1960s, though, public responsibility for

¹⁴ Saul Halfon, *The Cairo Consensus: Demographic Surveys, Women’s Empowerment, and Regime Change in Population Policy* (Lanham, MD: Lexington Books, 2007), 40.

¹⁵ Halfon, *Cairo Consensus*, 39.

¹⁶ Dwight Eisenhower, quoted in “POLITICS: The Birth-Control Issue,” *Time Magazine*, 14 December 1959, <http://www.time.com/time/magazine/article/0,9171,894319-1,00.html>.

population stabilization had become less taboo. President Kennedy supported international population programs, although it took a few more years before any President considered domestic population policies for the United States.

The economic rationales discussed at the 1965 Belgrade Conference were the most palatable, but not the sole reasons for population control programs in the Third World. Apocalyptic environmental concerns also motivated the United States to support population control. Three influential authors in the 1960s—Kingsley Davis, Garrett Hardin and Paul Ehrlich—focused attention on the environmental arguments for population control.

Kingsley Davis

In an influential article published in *Science* in 1967, Kingsley Davis, President of the American Sociological Association and the American representative on the UN Population Commission, criticized the population programs designed at the 1965 Belgrade Conference as ineffective. Davis characterized the “consensus” on family planning as “a euphemism for contraception”¹⁷ because “[t]he family-planning approach to population limitation ... concentrates on providing new and efficient contraceptives on a national basis through mass programs under public health auspices.”¹⁸ They are emphatically not population control programs: they fail to fulfill their “promised goal—to limit population growth so as to solve population problems” because the programs defer to individual autonomy.¹⁹

Davis claimed that individual choice does not reduce population size. There “is no reason to expect that the millions of decisions about family size made by couples in their own

¹⁷ Kingsley Davis, “Population Policy: Will Current Programs Succeed?” *Science* 153, no. 3802 (10 November 1967): 730, <http://www.jstor.org/stable/1723056>.

¹⁸ Davis, “Population Policy,” 731.

¹⁹ Davis, “Population Policy,” 731.

interest will automatically control population for the benefit of society”²⁰ and “[s]ince family planning is by definition private planning, it eschews any societal control over motivation.”²¹

Unlike proponents of family planning, Davis suggested that public and private aims will not align because

[w]hat is rational in the light of a couple’s situation may be totally irrational from the standpoint of society’s welfare. The need for societal regulation of individual behavior is readily recognized in other spheres—those of explosives, dangerous drugs, public property, natural resources. But in the sphere of reproduction, complete individual initiative is generally favored even by those liberal intellectuals who, in other spheres, most favor economic and social planning.²²

While family planning programs are not useless—because “[f]reeing women from the need to have more children than they want is of great benefit to them and their children and to society at large”—they are dangerous because they divert attention from the fact that “family planning does not achieve population control.”²³ Family planning is “an ostrich-like approach in that it permits people to hide from themselves the enormity and unconventionality of the task.”²⁴

Davis recommended postponing marriage through social norms, changing the tax structure to favor singles, relaxing laws regarding access to contraceptive and abortion, and equalizing men and women’s wage rates. He foreshadowed the women’s empowerment approach to population policies by tying the expansion of women’s economic opportunities to lower fertility rates. But unlike the women’s empowerment movement, Davis argued that these private, voluntary measures are insufficient. Coercive programs including the forced abortion of illegitimate children or heavily taxing families with more than a certain number of children are necessary, he suggested, for women who, with full freedom, still produce too many children.

²⁰ Davis, “Population Policy,” 732.

²¹ Davis, “Population Policy,” 734.

²² Davis, “Population Policy,” 737.

²³ Davis, “Population Policy,” 736.

²⁴ Davis, “Population Policy,” 739.

Davis concluded with a passage that Paul Ehrlich quoted in entirety in *The Population Bomb* published one year later. He wrote that

[t]he things that make family planning acceptable are the very things that make it ineffective for population control. By stressing the right of parents to have the number of children they want, it evades the basic question of population policy, which is how to give societies the number of children they need. By offering only the means for *couples* to control fertility, it neglects the means for societies to do so.²⁵

The tension between individual autonomy and effective programs that Davis expresses runs throughout the population movement.

Garrett Hardin

Garrett Hardin warned of the dire consequences of overpopulation. In 1968, he coined the now common term “the tragedy of the commons,” in relation to overpopulation. The tragedy of the commons describes the overexploitation of public goods due to the inequality between marginal social and marginal private costs. For example, if ten shepherds share a pasture without any legal right to it, each has the incentive to graze more sheep on the pasture, despite the fact that they will overgraze and thus ruin the pasture for all of the shepherds. The private gain of feed for the additional sheep exceeds the long-term, future cost to the shepherd of the ruined pasture both because the harm will be in shared pastures, leaving each shepherd to suffer only a portion of the harm, and because the harm is entirely in the future.

Hardin suggested that overpopulation was the global manifestation of the tragedy of the commons. The utilitarian goal of the greatest good for the greatest number was “impossible” because of the finitude of the world’s resources.²⁶ He contested the “freedom to breed” on environmental grounds. He ended with a dire prediction: population growth must end or else all

²⁵ Davis, “Population Policy,” 738.

²⁶ Garrett Hardin, “The Tragedy of the Commons,” *Science* 162 (13 December 1968): 1244, <http://www.jstor.org/stable/1724745>.

common property, including the atmosphere and the oceans, will be overexploited and destroyed.²⁷

Hardin's concept of the tragedy of the commons was important for the population discourse because it connected overpopulation not only with economic stagnation, as the UN Conferences did, but also with environmental degradation. It described a mechanism through which rapid population growth would destroy environmental quality in developing countries and it globalized the problem of rapid population growth, implying that the developed world will also suffer once common resources are destroyed by overpopulation. The tragedy of the commons predicts that the developing world will be slow to curb population growth: on the individual or national level, the costs of reducing rapid population growth are far higher than the benefits.

Paul Ehrlich

Paul Ehrlich publicized and sensationalized environmental concerns about overpopulation with his provocative book, *The Population Bomb*. Ehrlich articulated the neo-Malthusian argument that dominated American public discourse and international policy in the 1970s. Ehrlich recognized that overpopulation is a relative term based on society's expectation of per capita space and resource use. Accordingly, he defined "overpopulation" in terms of societal goals: "overpopulation does not normally mean too many people for that area of a country, but too many people in relation to the necessities and amenities of life. *Overpopulation occurs when numbers threaten values.*"²⁸

The appeal of Ehrlich's argument came in its simplicity and urgency: on a finite earth, infinite and exponential population growth, as was occurring at the time, is unsustainable. Rapid

²⁷ Hardin, "Tragedy of the Commons," 1246.

²⁸ Paul Ehrlich, *The Population Bomb*, Reprint of the 1968 edition by Ballantine Books (Riverside, MA: Riverside Press, 1975), 9.

growth must end, either through preventative measures or catastrophic consequences. There are

only two kinds of solutions to the population problem. One is a ‘birth rate solution,’ in which we find ways to lower the birth rate. The other is a ‘death rate solution,’ in which ways to raise the death rate—war, famine, pestilence—*find us*. The problem could have been avoided by *population control* ... so that a ‘death rate solution’ did not have to occur.²⁹

Ehrlich’s “birth rate solution” corresponds to Malthus’ “preventative check,” and his “death rate solution” to Malthus’ “positive check.”

But Malthus and Ehrlich’s context differed in three key ways. Family planning programs existed in Ehrlich’s time but not in Malthus’. Ehrlich foresaw global consequences, while Malthus predicted local ones. And the world was more densely populated and growing faster by the time Ehrlich wrote. He pronounced that “the battle to feed humanity is already lost.”³⁰

Ehrlich’s alarm at the food crisis pushed him to view voluntary family planning methods as ineffective. He quoted Kingsley Davis’ 1967 *Science* article at length to emphasize that “population control, of course, is the *only* solution to problems of population growth.”³¹ Ehrlich agreed with Davis that coercion was necessary. He encouraged Americans to support forced sterilization in India, writing:

Coercion? Perhaps, but coercion in a good cause. I am sometimes astounded at the attitudes of Americans who are horrified at the prospect of our government insisting on population control as the price of food aid. All too often the very same people are fully in support of applying military force against those who disagree with our form of government or our rapacious foreign policy. We must be just as relentless in pushing for population control around the world, together with rearrangement of trade relations to benefit UDCs [under developed countries], and massive economic aid.³²

Coercive family planning may be analogous to coercive military interventions designed to ensure democracy abroad, but this comparison on its own does not justify either forced intervention.

²⁹ Ehrlich, *The Population Bomb*, 17.

³⁰ Ehrlich, *The Population Bomb*, 18.

³¹ Ehrlich, *The Population Bomb*, 138.

³² Ehrlich, *The Population Bomb*, 151-152.

Ehrlich described negative consequences of population growth in terms of a tradeoff between population control measures today and famine and disease in the long run. But he did not explain how that tradeoff justifies coercion. He ruled out “the addition of temporary sterilants to water supplies or staple food” only on technical and political grounds.³³

Ehrlich described the role of businesses as strong proponents of population growth. The “idea of an ever-expanding economy fueled by population growth seems tightly entrenched in the minds of businessmen, if not in the minds of economists. Every new baby is viewed as a consumer to stimulate an ever-growing economy.”³⁴ Ehrlich here foreshadowed substantial political opposition, discussed in Chapter 4, to the population movement from business and other growth proponents.

Ehrlich and Holdren converted Ehrlich’s narrative about population growth into the I=PAT formula. While never as popular in the public discourse as the idea of the “population bomb,” it became and remains a crucial measure of environmental impact. I=PAT reduces the factors of environmental destruction into a form which allows people to break down its component parts in order to quantify the problem and devise segmented solutions.

Neo-Malthusian Policy

These three authors, most prominently Ehrlich, incited public debate about population growth in the United States, at UN Population Conferences, and in the developing world. In 1972, President Richard Nixon created the Commission on Population Growth and the American Future, headed by John D. Rockefeller. The Commission concluded that, after centuries of

³³ Ehrlich, *The Population Bomb*, 130-131. The toxic chemical pollution that covered America in 1960s and inspired Rachel Carson to write *Silent Spring* features prominently in *The Population Bomb*. From the Department of Agriculture’s use of DDT to chemical companies’ dumping of waste into water supplies, Americans were exposed unknowingly to hundreds of toxic chemicals per year. From this perspective, Ehrlich’s concept of adding another chemical to the water may not seem as radical.

³⁴ Ehrlich, *The Population Bomb*, 139.

regarding population growth “as a measure of our progress, ... our country can no longer afford the uncritical acceptance of the population growth ethic that ‘more is better.’ ... [N]o substantial benefits would result from continued growth of the nation’s population.”³⁵ The Commission’s policy recommendations included the liberalization of abortion and contraceptive laws, especially for teenagers, an increase in sex education and funding for fertility control research, strict immigration limits, and improved demographic data. Most notably, the Commission recommended “that the nation welcome and plan for a stabilized population.”³⁶

This was the first time that the United States acknowledged the problem of domestic population growth. However, none of the Commission’s seventy recommendations were implemented due to President Richard Nixon’s fear of Catholic opposition. Catholic opposition had organized into an especially powerful anti-population stabilization force in the years following *Roe v. Wade*, the 1973 Supreme Court decision legalizing abortion, warning American politicians away from the topic domestically.

Domestic opposition, however, did not reduce American involvement with population programs in the developing world in the 1970s. A National Security Study Memorandum from 1974 stated that the

universal objective of increasing the world’s standard of living dictates that economic growth outpace population growth. ... [E]xpenditures on effective family planning services are generally one of the most cost effective investments for an LDC country seeking to improve overall welfare and per capita economic growth. We cannot wait for overall modernization and development to produce lower fertility rates naturally since this will undoubtedly take many decades in most developing countries, during which time rapid population growth will tend to slow development and widen even more the gap

³⁵ The Commission on Population Growth and the American Future, *Population and the American Future* (Washington, DC: U.S. Government Printing Office, 1972), Chapter 1, http://www.population-security.org/rockefeller/001_population_growth_and_the_american_future.htm.

³⁶ Commission on Population Growth, *Population and the American Future*, Compilation of Recommendations.

between rich and poor.³⁷

This report summarized the orthodox view that dominated international population stabilization policies.

The 1974 World Population Conference in Bucharest echoed this sentiment. It was the first intergovernmental population conference, with official governmental representatives of 135 nations present. It produced a World Population Plan of Action which aimed to develop countries socially, economically, and culturally, on the understanding that population objectives were intertwined with other forms of development.³⁸ The primary concern was economic, not environmental. But the logic was still Malthusian because it stressed the scarcity and thus declining living standards that population growth would cause. Some argue that the 1974 Conference was also Malthusian in its segmentation of the world into desirable and undesirable populations: “Neo-Malthusianism ... played out strongly in the ICPDs [International Conferences on Population and Development] (particularly the 1974 ICPD) where a western paranoia of increasing Third World population was evident.”³⁹ But the West was not the only proponent of family planning. The number of developing countries with official family planning policies rose from two in 1960 to 74 by 1975.⁴⁰ Two developing countries, China and India, implemented especially notorious population control policies.

China's One-Child Policy

China originally encouraged population stabilization using voluntary measures when the

³⁷ *National Security Study Memorandum (NSSM) 200: Implications of Worldwide Population Growth for U.S. Security and Overseas Interests* (“The Kissinger Report”), 10 December 1974, Executive Summary #17, pdf.usaid.gov/pdf_docs/PCAAB500.pdf.

³⁸ United Nations, “Outcomes on Population.”

³⁹ Rachel Simon-Kumar, *‘Marketing’ Reproduction? Ideology and Population Policy in India* (New Delhi: Zubaan, 2006), 46.

⁴⁰ John Cleland, Stan Bernstein, Alex Ezeh, Anibal Faundes, Anna Glasier and Jolene Innis, “Family Planning: The Unfinished Agenda,” *Sexual and Reproductive Health 3, Lancet* 368, no. 9549 (18 November 2006), 1810.

state began in 1962 to promote family planning on a large scale. In 1970, the Chinese government launched a sustained family planning effort with the slogan, “Later, Longer, Fewer.” This effort emphasized persuasion, backed up by coercion. The one-child policy launched in 1979 relied heavily on the coercive techniques tested out from 1970 to 1979.⁴¹ The policy mandated at most one child in cities. It was slightly more lax in regard to children in the countryside, where occasional exceptions were permitted. The goal of the one-child policy was not to reduce Chinese fertility further, because the unofficial policy of the 1970s had already achieved a dramatic reduction, but to ensure that the birth rate remained low even as the 1960s baby boomers started to marry and have children.⁴²

The amount of force used to carry out these policies fluctuated after 1970. After initial enthusiasm throughout the 1970s, a wave of increasing abortions and sterilizations began again in 1983, receded mid-decade, and picked up in the late 1980s and early 1990s. The coercion was physical, economic, and emotional. Martin Whyte, a sociologist of China at Harvard, describes the “systematic effort to try to subject families (and women in particular) to such unremitting threats and pressures that they will feel they have no way out except by submitting to an official demand for abortion and/or sterilization.”⁴³ The official statements from the government against coercive population control are “highly disingenuous, to say the least” because the one-child policy necessitates the use of coercive pressure, even if not physical.⁴⁴

Steven Mosher, the first American anthropology graduate student allowed to live in

⁴¹ China’s 1982 Constitution even contained an article which declared that “the state promotes family planning so that population growth may further the plans for economic and social development.” Demeny and McNicoll, “World Population,” 25.

⁴² Martin Whyte, “Human Rights Trends and Coercive Family Planning in the PRC,” Chapter 24 in *China: Adapting the Past, Confronting the Future*, ed. Thomas Buoye (Ann Arbor, MI: Center for Chinese Studies, University of Michigan, 2002), 251-252.

⁴³ Whyte, “Human Rights Trends,” 252-253.

⁴⁴ Whyte, “Human Rights Trends,” 254.

China from 1979 to 1980, described in detail the coercive techniques of the one-child policy.⁴⁵ He recounts a family planning meeting in a Chinese commune in 1979 “which all women who were pregnant with their third or later children were required to attend.” The Communist Party members and leaders told the women: “None of you has any choice in this matter. You must realize that your pregnancy affects everyone in the commune, and indeed affects everyone in the country.”⁴⁶ The assistant Party Secretary then modified the previous statement, claiming, “We aren’t forcing you to abort. ... The decision to undergo an abortion has to be made by you yourselves. But in making this decision, you have to consider not only yourselves but the country and the collective as well. Obviously the country needs to control its population.”⁴⁷ The reassurances against coercion were hollow because the women had “to stay in a commune dormitory until they agreed to an abortion.”⁴⁸ Since these women were “not paid their regular work points for the days ... in meetings, ... [t]his amount[ed] to an enforced idling of, in most cases, one-half of the family work force and act[ed] as a strong prod toward the alacritous acceptance of family planning.”⁴⁹ Mosher depicts a woman sobbing to him that the Chinese government was forcing her to have an abortion that she did not want.⁵⁰

Abortions are the most commonly cited example of coercive population control because they arouse the most outrage, especially among conservative Christians. The Chinese story of

⁴⁵ Mosher’s history as a pro-life advocate and his position now as the President of the Population Research Institute (PRI), an openly pro-life population organization, may color his descriptions. The PRI website states that “witnessing these traumatic abortions [in China] led him [Mosher] to reconsider his convictions and to eventually become a practicing, pro-life Roman Catholic.” “Our President,” Population Research Institute, <http://www.pop.org/about/our-president-803>. The editors of the textbook, *China: Adapting the Past, Confronting the Future*, in which Mosher’s essay appeared, replaced Mosher’s piece in its third edition with an article on the statistics of the population control policy in China. But his descriptions are compelling nonetheless.

⁴⁶ Steven Mosher, “Birth Control: A Grim Game of Numbers,” Chapter 39 in *The Chinese: Adapting the Past, Facing the Future*, ed. Robert Demberger (Ann Arbor, MI: Center for Chinese Studies, University of Michigan, 1991), 429.

⁴⁷ Mosher, “Birth Control,” 430.

⁴⁸ Mosher, “Birth Control,” 431.

⁴⁹ Mosher, “Birth Control,” 433.

⁵⁰ Mosher, “Birth Control,” 436-7.

forced abortions grabs people's attention. But in reality, the one-child policy consisted more of forced sterilizations and fines on extra children than abortions. A *New York Times* article from December 2010 chronicles an attempt in April 2009 to force women with two children to be sterilized. Government officials held 1,300 elderly mothers hostage to force their daughters, who had fled to avoid sterilization, to return. This resulted in 3,000 sterilizations within six months.⁵¹

Despite concerns with this policy on its thirtieth anniversary, the director of the National Population Family Planning Commission announced that the current policies would remain in place through 2015. Chinese officials praise the program for having prevented 400 million births.⁵² Additional consequences rarely mentioned are the infants abandoned or killed. Due to the one-child policy combined with the cultural preference for boys, female infanticide and the abandonment of baby girls has increased dramatically. Since the early 1990s, in regions of China, the sex ratio at birth has been 120 males to 100 females, which is far above the natural average of 105 or 106 males to 100 females at birth.⁵³ The skewed sex ratio indicates the widespread use of pre-natal sex screening and gender-selective abortion.

India's Sterilization Program

The Indian sterilization campaign garnered extensive publicity because of its overtly coercive character and because the forced sterilizations were of men. India undertook this campaign during the National Emergency, the period from June 1975 to March 1977, when the President, on the advice of the Cabinet and government, declared a state of emergency, giving Prime Minister Indira Gandhi the power to rule by decree, suspending elections and civil liberties. As part of the Emergency, in April 1976, Gandhi's government introduced a new

⁵¹ Andrew Jacobs, "Abuses Cited in Enforcing China Policy of One Child," *New York Times*, 22 December 2010, http://www.nytimes.com/2010/12/22/world/asia/22population.html?_r=1&scp=11&sq=andrew%20jacobs%20china&st=cse.

⁵² Jacobs, "Abuses Cited in China."

⁵³ Whyte, "Human Rights Trends," 253.

family planning initiative, which, among other things, allowed the forced sterilization of men.⁵⁴ A *Time* article from March 1977 cites an official count stating that the sterilization campaign resulted in 7 million vasectomies in 1976.⁵⁵

Similar to the one-child policy, the Indian family planning program was based on regional quotas for sterilizations and birth rates, giving local officials incentives to use force. In one town, villagers said “that they had taken to sleeping in the fields to avoid being picked up and sterilized.” In another, the market “was closed for a time because no one would come to it for fear of being nabbed by sterilization teams.” Gunfire broke out in a third town “when villagers resisted a sudden dragnet conducted by police squads seeking candidates for sterilization.”⁵⁶ The image of police grabbing men off the street to permanently sterilize them confirmed many people’s worst nightmares about population control programs.⁵⁷ The organization ZPG worried at the time that the “sterilization campaign may have jeopardized future popular acceptance and government support for voluntary family planning in India.”⁵⁸

THE GREEN REVOLUTION AND REVISIONISM

Population policy began to shift away from neo-Malthusian theory in the 1980s. The Green Revolution, which assured the developed world that the production of sufficient food was possible, and revisionist theory, which suggested that population growth did not impede

⁵⁴ Sukumar Muralidharan, “The Indira Enigma,” Review of *Indira, The Life of Indira Nehru Gandhi* by Katherine Frank (2001), *Frontline* 18, no. 9 (28 April – 11 May 2001) <http://www.hinduonnet.com/fline/fl1809/18090740.htm>.

⁵⁵ “INDIA: Ill Winds Batter Indira Gandhi,” *Time Magazine*, 21 March 1977, <http://www.time.com/time/magazine/article/0,9171,946765-1,00.html>.

⁵⁶ “INDIA,” *Time*.

⁵⁷ In Salman Rushdie’s *Midnight’s Children*, the protagonist’s body “crumbles” and “cracks” throughout the book, in large part because of how the forced sterilization he had to endure in this time breaks him. Rushdie calls Indira Gandhi “the Widow,” referring to the forced sterilizations she inflicted on so many men. Rushdie notes that “Sanjay Gandhi, and his ex-model wife Maneka, were prominent during the Emergency. The Sanjay Youth Movement was particularly effective in the sterilization campaign.” Salman Rushdie, *Midnight’s Children* (New York: Penguin Group, 1980), 484. The theme of sterility that runs throughout the novel illustrates how powerfully the image of random, force sterilizations captured public attention and bred distrust of any population stabilization movement.

⁵⁸ “Notes – Gandhi Rejected,” *ZPG National Reporter* 8, no. 3 (April 1977), 12.

economic development, drove this shift.

The Green Revolution

The Green Revolution refers to the dramatic increase in agricultural productivity and yield that occurred in the 1960s and 1970s due to improvements in fertilizers and plant varieties. Norman Borlaug, an American agricultural engineer and the “father of the Green Revolution,” won the Nobel Peace Prize in 1970 for aiding world peace by increasing the food supply.

Borlaug never questioned the premise that population growth would necessitate change, as Ehrlich emphasized so powerfully. He proclaimed that “nature’s way isn’t good enough with the populations we have right now.”⁵⁹ He agreed with Ehrlich that the uneven distribution of resources was not the cause of scarcity: “[w]ere all the grain in the world equitably distributed, none of us would have enough.”⁶⁰ And, like Ehrlich, he acknowledged that “we all want a decent environment in which to live.”⁶¹

But his definition of a decent environment and thus the ideal solution to population growth differed from Ehrlich’s. He argued that “it becomes ever more obvious that as population grows, we will have to make the land that is good agricultural and forest land produce more than it has ever produced in the past if we are to stay ahead of our growing needs.”⁶² And because more arable land was not available on the global scale, producing additional grain required “high yield production” consisting of increased fertilizer use and better genetic varieties of crops. Where Ehrlich recommended population control to buy time for hungry families, Borlaug suggested immediate increases in yield.⁶³ Borlaug’s approach could solve the global

⁵⁹ Norman Borlaug, “Nature’s Way Isn’t Good Enough,” *American Forests* (May 1976), 60.

⁶⁰ Borlaug, “Nature’s Way,” 21. In fact, Borlaug stated that the world would need to produce 30 million metric tons more grain, although later in the speech admitted that he was not sure about the exact numbers.

⁶¹ Borlaug, “Nature’s Way,” 63.

⁶² Borlaug, “Nature’s Way,” 20.

⁶³ Borlaug, “Nature’s Way,” 58-59.

food crisis in years, while Ehrlich's approach would take decades.

Borlaug viewed as essential the chemicals and fertilizers that Ehrlich criticized in *The Population Bomb*. He asserted that “[t]he use of organic fertilizer is wonderful for growing six rose bushes in your back yard and three tomato plants, but it is no damned good at all for trying to feed four billion people.”⁶⁴ The Green Revolution with its use of high-yield crop varieties boosted by chemical fertilizer use overrode neo-Malthusian concerns about population growth at the time because it seemed to mitigate the resource scarcity caused by population growth.

Revisionism

In the 1980s, the international consensus on theories of population growth changed as well. At the 1984 World Population Conference in Mexico City, most developing countries, who were beginning to see results from the population programs implemented in the 1970s, steadfastly stuck with the orthodox understanding of population growth. They “took the position that population planning must be an important part of any development program.”⁶⁵ Many developing countries even nationalized population programs whose implementation had been driven by the United States or other Western countries.

The American position, however, changed radically in 1984 and the Mexico City conference saw America's strong rejection of that population orthodoxy. After a decade of conservative reaction against *Roe v. Wade*, the Reagan administration announced at the International Conference on Population in Mexico City in 1984 that it was eliminating all USAID funding to organizations that supported abortion through information or services.⁶⁶

Abortion was not its only target—the whole range of population stabilization policies was

⁶⁴ Borlaug, “Nature's Way,” 58.

⁶⁵ Godfrey Roberts, “Introduction,” in *Population Policy: Contemporary Issues*, edited by Godfrey Roberts (New York: Praeger, 1990), xi.

⁶⁶ Halfon, *Cairo Consensus*, 35.

deemed objectionable. The 1984 American policy statement stated that population growth was a “neutral phenomenon” in respect to economic development: the “relationship between population growth and economic development is not necessarily a negative one.”⁶⁷ This so-called “revisionist” view, strongly supported by Julian Simon, a Reagan administration population policy advisor, meshed well with the administration’s free market ideology and social conservatism and became central to its family planning policies. The international community, though, did not look favorably on the American suggestion to abolish the substantial programs already in place, funded largely by aid from the West.⁶⁸

The concept that held the family planning agenda together despite this divide was the idea of the “unmet need for contraception.”⁶⁹ This idea combined the individual choice element of the free market approach with state-sponsored population goals. It defined the problem not as population growth *per se*, but rather the fact that population growth resulted from women having more children than they individually wanted. Originally conceptualized at the 1984 conference, within ten years “unmet need” became the “central conception of population intervention” because it “defined both a social problem *and* its concomitant solutions.”⁷⁰ The idea of unmet need also eased the transition from state-sponsored family planning programs to measures aimed at enhancing women’s control over their lives.

THE CAIRO CONSENSUS: UNMET NEED

The title of the 1994 Cairo conference, the International Conference on Population and Development, exemplifies the move towards the framework of unmet need. The conference focused on “meeting the need of individuals within the framework of universally recognized

⁶⁷ United States Position Paper quoted in Demeny and McNicoll, “World Population,” 29.

⁶⁸ Demeny and McNicoll, “World Population,” 28.

⁶⁹ Halfon, *Cairo Consensus*, 9 and Demeny and McNicoll, “World Population,” 17.

⁷⁰ Halfon, *Cairo Consensus*, 9.

human rights standards instead of merely meeting demographic goals.”⁷¹ The Cairo Programme of Action focused mainly on sustainable development, with population policy as one of many policies needed to promote it. Its objectives for “population and environment” were

- (a) To ensure that population, environmental and poverty eradication factors are integrated in sustainable development policies, plans and programmes;
- (b) To reduce both unsustainable consumption and production patterns as well as negative impacts of demographic factors on the environment in order to meet the needs of current generations without compromising the ability of future generations to meet their own needs.⁷²

The international consensus now recognized the significance of demographic factors only when embedded with other factors antithetical to sustainable development.

The concept of sustainable development meshed the competing goals driving the conference. In the lead-up, human rights organizations had increasingly mobilized against coercive family planning measures, and time had shown the negative consequences of coercive programs.⁷³ The theory no longer unilaterally asserted that population growth was detrimental to economic development. Some countries considered population policies ineffective, others worried about their implications for human rights, but most still recognized the political, economic and environmental challenges that rapid population growth presented. These disjointed concerns led to a conference that the *Earth Negotiation Bulletin*, an independent reporting service on international environmental negotiations,⁷⁴ twice described as “controversial” in its two-paragraph summary.⁷⁵

Despite these tensions, the Conference produced a unified approach to population policy,

⁷¹ United Nations, “Outcomes on Population.”

⁷² *Report of the International Conference on Population and Development, Cairo, 5-13 September 1994*, United Nations A/CONF. 171/13: Report of the ICPD (94/10/18), Chapter 3C § 3.28, <http://www.un.org/popin/icpd/conference/offeng/poa.html>.

⁷³ Halfon, *Cairo Consensus*, 65.

⁷⁴ “ENB Background,” *Earth Negotiations Bulletin*, <http://www.iisd.ca/enbvol/enb-background.htm>.

⁷⁵ “Summary of the International Conference on Population and Development,” *Earth Negotiations Bulletin*, <http://www.iisd.ca/vol06/0639001e.html>.

later called “the Cairo Consensus.” The Programme of Action stated that “[a]ll couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so.”⁷⁶ Saul Halfon, an analyst of science and technology and author of a book on the Cairo Conference, writes that “women’s empowerment, gender, and reproductive health form the proactive core of what came to be known as the Cairo Consensus.”⁷⁷ Over the next fifteen years, the emphasis on individual freedom came at the expense of demographics.

The UN Millennium Development Goals (MDGs), which form a blueprint to reduce global poverty starting in 2000, highlight this change. They aim to achieve universal education, gender equality, child and maternal health, and environmental sustainability. Demographic goals are conspicuously absent.⁷⁸ The MDGs guide governmental and private aid, which have also eschewed demographic goals. They implied a new perspective on women’s needs and on the goals of foreign aid. In women’s empowerment, “gender begins to stand in for systems of oppression that prevent individuals from exercising power over their lives. This broader sense of power focuses on reinforcing the autonomy of individual women, and increasingly functions by broadening market choice and medical intervention.”⁷⁹ This consensus views economic development and improved health as the best ways to broaden market choice and make easier measures to limit fertility. This is a definitive change from the Malthusian warnings about scarcity because it emphasizes the benefits of growth, this time mediated through new birth control technology.⁸⁰

⁷⁶ *Report of the International Conference*, Chapter 2 § 8.

⁷⁷ Halfon, *Cairo Consensus*, 70.

⁷⁸ “Millennium Development Goals,” United Nations, 2008, <http://www.un.org/millenniumgoals/>.

⁷⁹ Halfon, *Cairo Consensus*, 52.

⁸⁰ The Guiding Principles of the Bill and Melinda Gates Foundation, one of the largest foundations in the world focused on global health and women’s empowerment, demonstrates the technological optimism that underlies

POPULATION, HEALTH, AND ENVIRONMENT

The Cairo Consensus remains the primary discourse regarding population growth in domestic and international policy today. But increasingly, non-governmental organizations and to a limited degree, USAID, have begun to mix environmental concerns back into the debate. Environmental concerns now surround climate change and population growth's influence on mitigation and adaptation. Already in 1988, ZPG linked population growth and climate change. The *ZPG Reporter* announced that population growth was tied to global warming and noted scientists' warning that "society must take immediate action to avert disastrous consequences."⁸¹ But it was not until the late 1990s that substantial international attention centered on climate change.

The UNFCCC conventions, especially the 2009 Copenhagen Conference, demonstrate that environmental problems are now considered international. Population growth was not discussed at these conferences, but climate change has globalized the context of population growth. In the 1960s and 1970s, when the concern about population growth revolved around the world food supply, few seriously suggested that most American citizens would go hungry. Rapid population growth in the Third World concerned Americans because of the potential political instability it bred, not because environmental degradation in the Third World could harm the United States. The population threatened to surpass America's carrying capacity, but it was certain that the Third World would suffer before America.

As the consequences of climate change worsen, most models predict that the United

growth. They read: "Guiding Principle #3: Science and technology have great potential to improve lives around the world" and "Guiding Principle #15: We leave room for growth and change." "About the Foundation: Guiding Principles," Bill and Melinda Gates Foundation, <http://www.gatesfoundation.org/about/Pages/guiding-principles.aspx>.

⁸¹ "Action Heats Up To Halt Global Warming: Population Growth Tied To 'Greenhouse,'" *ZPG Reporter* 20, no. 3 (July-August 1988), 1.

States will be affected directly. The developing world will be hit harder and sooner, but climate change is a global problem. The food concerns kept at bay by the Green Revolution will likely worsen. The Green Revolution depends in large part on massive application of synthetic fertilizers and one of the most significant contributors to climate change today is nitrous oxide emissions from decomposing fertilizer. Thus, there may be additional pressures from climate change mitigation efforts on the food system. As climate change increases severe weather patterns, less and less of the world's land will remain arable. Moreover, as developing nations industrialize, they will emit more carbon. The larger their populations the more carbon emissions the world will have to cope with.

Thus, the focus on climate change has reignited analytic interest in population growth. The Population Reference Bureau, a federal research department, hosts the Population, Health and Environment group meetings in Washington, DC. This non-advocacy group aims to “increase awareness ... about population, health, and environment challenges and integrated solutions.”⁸² At the monthly meetings I attended, staff from environmental, health and population organizations as well as government agencies gathered to discuss the integration of the on-the-ground service provisioning and governmental advocacy. The Sierra Club, the Audubon Society, the Natural Resources Defense Council (NRDC), Population Connection, Pathfinder International, and USAID were all represented at the PHE meeting. The environmental organizations represented are adding women's empowerment, especially family planning, to their platforms, while women's empowerment organizations are beginning to emphasize climate change and population growth. At the 2010 Women Deliver Conference, a conference on maternal health and morality, there were three breakout sessions on women,

⁸² “Population, Health, and Environment Program,” Population Reference Bureau, last modified 2011, <http://www.prb.org/About/InternationalPrograms/Projects-Programs/PHE.aspx>.

population, and climate change grappling with the most productive and defensible stance for the women's empowerment community to take on climate change and population growth. Most of my interviewees noted this new alliance.

The Cairo framework—advocating for population policies only in terms of meeting the unmet need for contraceptives—remains the dominant blueprint for international development assistance surrounding population. But slowly and tentatively environmental concerns surrounding climate change are being incorporated into that framework. This may offer a way to merge population growth with environmental concerns without falling into the pattern of coercion that dominated population policies in the past.

CHAPTER THREE

THE MORALITY OF POPULATION POLICY

CREATING THE MORAL SPACE

In a 2010 essay, Sissela Bok, a philosophy professor at Brandeis University and a senior visiting fellow at the Harvard Center for Population and Development Studies, called for the opening of the “moral space” in which to have conversations about the ethics that underlie population policy.¹ Most people engaged in the population debate appeal for justification “to moral principles, rights, responsibilities, and obligations.” But “unless the parties to debate about such moral claims explore the different meanings they attach to these terms, they cannot go far in considering the underlying moral issues at stake.”² Even if all the disagreement cannot be resolved, the process of dissecting the moral issues and examining what consensus is possible lays the groundwork for a more balanced discussion of population growth in an environmental context.

What ethical questions do controls on population growth raise for environmental policy? Three foundational questions are: first, what is the goal of population stabilization policy—improving life for people today, for future generations, or for the earth and other species? Second, what rights does population policy affect and under what conditions, if any, can population policy be morally acceptable? Third, what does including population growth in discussions of sustainability imply about other considerations that should be included in those discussions? The concept of sustainability requires accepting all three goals implied in the first

¹ Sissela Bok, “Population and Ethics,” Chapter 1 in *Population and Political Theory*, edited by James Fishkin and Robert Goodin, *Philosophy, Politics and Society* 8 (Chichester, UK: John Wiley & Sons Ltd, 2010).

² Bok, “Population and Ethics,” 9.

question—improving lives for people today, in the future, and for nonhuman species. The debate concerns the relative weight to be given to each element, which leads to the other two questions.

This chapter investigates what the right to reproduction entails and how far it extends. Concluding that the right to reproduction is not absolute raises the concomitant need to problematize consumption along with population growth. There can be mandatory limits on consumption, but not mandatory population policies because of the ethical problems in mandating reproduction. Furthermore, any policies create concern about uneven application, so a fair distribution of services is key. What that means in practice changes with the definition of “fair.”

THE RIGHT TO REPRODUCE

What does the “right to reproduce” protect? Is it the right to have children, or the right to produce a family, or the right to unlimited reproduction? Various moral authorities guide an analysis of this right: American law, international human rights agreements, the Bible, and population philosophers. While at first these sources seem to imply “a broad right” to procreation, Carter Dillard, the author of an influential article, “Rethinking the Procreative Right,” argues that “when analyzed more closely these authorities merely provide for a right to continue the species, a right to perpetuate the race and have offspring, and the right to simply found a family.”³ The broad right to reproduce and the more specific right to a family or offspring are separate because the “intrinsic value is not an unfettered right to procreate, but something more limited, closer to the notion of optimized replacement and inextricably tied to

³ Carter Dillard, “Rethinking the Procreative Right,” *Yale Human Rights and Development Law Journal* 10 (2007): 10.

the correlative duties owed to prospective children and society.”⁴ Other “specific competing rights and duties – especially the rights of prospective children” qualify the right to procreation, defining as fundamental the right to continue a family, but not the right to unlimited procreation.⁵ The distinction between a right being fundamental (important to safeguard at any cost) and a right being unbounded (not subject to any regulation) underlies this evaluation of the right to reproduce.

American Law

In the *Second Treatise of Government*, John Locke based natural law on the formation of society that started with the union of a man and woman. Locke states that “the end of conjunction between male and female [is] not barely procreation, but the continuation of the species.”⁶ A man’s right to procreate derives from his right to continue his species, not from a separate right to an unlimited number of children. This qualification implies that when the right to procreate harms the continuation of the species, the continuation of the species should be the primary concern.

Much of American constitutional law derives from Locke’s idea of natural law. Legal decisions about the right to reproduce help define the secular morality of this right because “[i]n what is perceived as our personal lives, law (and how it defines rights) becomes a forceful normative guide, an effective reflection of societal consensus, whether or not there is ever an attempt to enforce it.”⁷ Furthermore, court decisions tend to offer a well-considered analysis of the different positions presented in the case, ultimately deciding based on the intrinsic value of

⁴ Dillard, “Rethinking the Procreative Right,” 49.

⁵ Dillard, “Rethinking the Procreative Right,” 63.

⁶ John Locke, *Second Treatise of Government*, edited by C.B. Macpherson (Indianapolis, IN: Hackett Publishing Company, 1980) § 79 (page 43).

⁷ Dillard, “Rethinking the Procreative Right,” 10.

the right and its relation to other rights.⁸

Maximizing social good often requires balancing the right to reproduce with other rights:

No right, procreation included, is limitless if it is capable of conflicting with other valid and perhaps hierarchically superior rights. Population law's failure to address this conflict by properly defining the right ... ignores the fact that merely ensuring the survival of the citizenry falls well below what is required of government, the legitimacy of which is contingent on its ability to balance competing rights.⁹

A government that guarantees one unbounded right, despite the fact that it interacts negatively with other important rights, may undermine its own legitimacy unless that right is seen as so absolute that balancing it with others would severely harm society. It is rare for Western governments to adopt such positions.

American courts have considered the right to reproduction in terms of sterilization, contraception, abortion, disability, and probation. Some of these decisions have focused on the right to not procreate, which translates to the right to family planning, and others on the right to procreate.¹⁰ Although they relate closely, these are two distinct rights. The courts have decided more cases on the first.

Buck v. Bell, in 1927, marks the first major consideration of reproductive rights in American courts. The Supreme Court affirmed the state's right to sterilize a woman without her consent for the public good. Justice Oliver Wendell Holmes wrote for the majority that

the public welfare may call upon the best citizens for their lives [referring to soldiers in war]. It would be strange if it could not call upon those who already sap the strength of the State for lesser sacrifices. ... It is better for all the world if, instead of waiting to execute degenerate offspring for crime or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind.¹¹

As problematic as this eugenic language sounds today, weighing public welfare against

⁸ Dillard, "Rethinking the Procreative Right," 6.

⁹ Dillard, "Rethinking the Procreative Right," 6-7.

¹⁰ Dillard, "Rethinking the Procreative Right," 8.

¹¹ *Buck v. Bell*, 274 U.S. 200 (1927) § 207.

individual decisions remains a primary role of government. The questions this case raises are how to weigh reproductive freedom with other rights, and if the same right can be protected differently for different people.

In 1942, the Supreme Court reexamined forced sterilizations in *Skinner v. Oklahoma*. It concluded that in most cases, involuntary sterilizations would undercut “one of the basic civil rights of man.”¹² The Court in *Skinner* calls reproduction “a sensitive and important area of human rights,”¹³ but defines the right as a “right which is basic to the perpetuation of a race—the right to have offspring.”¹⁴ The justification for reproduction is that “[m]arriage and procreation are fundamental to the very existence and survival of the race.”¹⁵ The Court emphasized the fundamental right to have offspring in order to perpetuate the human race, not to reproduce in an abstract sense, separated from the aims of reproduction. This language implies that the Court preferred the protection of humanity’s future over the individual reproductive right.

With the waning of the eugenics movement after *Skinner* and the association of eugenics with Nazism, the Supreme Court next considered reproduction in terms of the right to contraceptives and abortion, respectively, in *Griswold v. Connecticut* (1965) and *Roe v. Wade* (1973). These decisions emphasized the rights surrounding the decision not to procreate. As such, they relied on the right to privacy found in the “penumbras” of other Constitutional rights rather than the definition of reproduction as an absolute right. In *Griswold*, the Court held that the “very idea” of regulating contraceptive use within marriage is “repulsive to the notions of privacy surrounding the marriage relationship.”¹⁶

In *Roe*, the Court upheld a woman’s right to an abortion on privacy grounds. Justice

¹² *Skinner v. Oklahoma ex rel. Williamson* § 541.

¹³ *Skinner v. Oklahoma* § 537.

¹⁴ *Skinner v. Oklahoma* § 536.

¹⁵ *Skinner v. Oklahoma* § 541.

¹⁶ *Griswold v. Connecticut*, 382 U.S. 479 (1965) § 485.

Harry Blackmun concluded that the “right to privacy ... is broad enough to encompass a woman’s decision whether or not to terminate her pregnancy.”¹⁷ Blackmun limited this right to privacy, though, writing that the “right of personal privacy includes the abortion decision, but ... this right is not unqualified and must be considered against important state interests in regulation.”¹⁸ The state’s interest in regulation becomes stronger after viability, the point during a pregnancy at which the fetus could survive outside the womb. Justice Blackmun’s qualification of the right to privacy suggests that there are reasons why reproductive privacy is not absolute. Although this decision focuses on the right of women to not have children, and thus is not a *prima facie* precedent for decisions on the right to have children, it sets the example of state intervention into reproduction at certain times, depending on its interest in protecting even unborn life.

The Supreme Court refined the state’s legitimate interests in limiting reproductive freedom in *Planned Parenthood of Southeastern Pa. v. Casey* in 1992. The Court upheld the decision in *Roe* that the Due Process clause protects a woman’s right to an abortion, but it related this right to liberty, not privacy. In doing so, it also expanded the ways in which the state may regulate abortion according to its legitimate interests, even at the earliest stages of pregnancy.¹⁹ The Court recognized that “[b]efore viability, the State’s interests are not strong enough to support a prohibition of abortion or the imposition of a substantial obstacle to the woman’s effective right to elect the procedure.” At the same time, “the State has legitimate interests from

¹⁷ *Roe v. Wade*, 410 U.S. 113 (1973) § 153. Blackmun did not decide where to locate the right to privacy. He wrote that the “right to privacy, whether it be founded in the Fourteenth Amendment’s concept of personal liberty and restrictions upon state action, as we feel it is, or, as the District Court determined, in the Ninth Amendment’s reservation of rights to the people, is broad enough to encompass a woman’s decision whether or not to terminate her pregnancy.”

¹⁸ *Roe v. Wade* § 154. One, although certainly not the main, state interest that the Court referred to here was the stabilization of the population: earlier in the decision Blackmun acknowledged that one of the reasons abortion was controversial was its implications for “population growth [and] pollution.” *Roe v. Wade* § 116.

¹⁹ *Planned Parenthood of Southeastern Pennsylvania v. Casey*, 505 U.S. 833 (1992) § 857-859.

the outset of the pregnancy in protecting the health of the woman and the life of the fetus that may become a child.”²⁰

While this is another case about the right to not reproduce, the Court’s definition of the state’s interest in the health of the woman and the potential life of the future child points to a willingness to balance reproductive rights with other state considerations, including health and the existence of future lives. Balancing a woman’s current reproductive rights with the rights of a fetus born in the next nine months is not directly comparable, because of the different timeframe, to balancing them with the rights of not-yet-conceived children who will live generations in the future. But the acknowledgement of the state’s interest in comparing these two concerns suggests that the Supreme Court does not consider the right to reproduce as unbounded or as one that is separable from the consequences of reproduction.

The Supreme Court considered the right to reproduce directly in the context of disabilities, deciding that reproduction is a “major life activity.” The Americans with Disabilities Act of 1990 defined a “disability” as “a physical or mental impairment that substantially limits one or more of the major life activities.”²¹ The Act left the interpretation of a “major life activity” to the courts, passing to them the determination who is eligible for disability benefits and protection against discrimination. The Supreme Court addressed disabilities and reproduction in *Bragdon v. Abbott* (1998), a case about whether asymptomatic HIV is a disability because it impedes reproduction. For the Court to rule HIV a disability, it had to define reproduction as a “major life activity,” since reproduction was the activity that the respondent

²⁰ *Planned Parenthood v. Casey* § 860.

²¹ Americans with Disabilities Act of 1990, 42 US Code Chapter 126 § 12102.

claimed HIV impaired.²² In approaching this case, the Court faced conflicting decisions from the lower courts. In February 1996, in *Pacourek v. Inland Steel Company*, the District Court of Illinois held that “infertility is an impairment and reproduction is a major life activity,”²³ while in September 1996, the Court of Appeals for the Eighth Circuit decided in *Krauel v. Iowa Methodist Medical Center* that “reproduction and caring for others are not cognizable major life activities.”²⁴ In *Bragdon*, the Court overturned *Krauel*, holding that “[r]eproduction falls well within the phrase ‘major life activity.’ Reproduction and the sexual dynamics surrounding it are central to the life process itself.”²⁵

In 2003, the Supreme Court returned to the right to privacy, defining it narrowly in *Lawrence v. Texas*, a case about the constitutionality of a Texas law banning sodomy. The Court defended the right to privacy specifically for “private conduct not harmful to others,”²⁶ implying that the protection of privacy arises in part from its lack of negative public consequences. This definition places the right to privacy in the realm of “autonomous liberty,” which Dillard calls the liberty that can be fully protected because it does not affect any other person’s rights. He suggests that because the decision to have a child affects others in society (as well as the future child), the right to reproduce is not autonomous, and thus is not protected by the right to privacy as defined in *Lawrence*.²⁷ Instead, the decision to have a child corresponds more closely to the decision about a late-term abortion, which the state has an interest in regulating as held in *Roe* and *Planned Parenthood*.

Dillard may be overreading the Court’s limitation of the right to privacy. But he points to

²² The court acknowledged that it “ha[s] little doubt that had different parties brought the suit they would have maintained that an HIV infection imposes substantial limitations on other major life activities.” *Bragdon v. Abbott* § 637. But in this case, the respondent included only HIV’s impairment of reproduction.

²³ *Pacourek v. Inland Steel Co.*, 916 F. Supp. 797 (1996) § 804.

²⁴ *Krauel v. Iowa Methodist Medical Center*, 95 F.3d 674 (1996) § 677.

²⁵ *Bragdon v. Abbott*, 524 U.S. 624 (1998) § 638.

²⁶ *Lawrence v. Texas*, 539 U.S. 558 (2003) § 572.

²⁷ Dillard, “Rethinking the Procreative Right,” 19.

the real tension between protecting the public good at the expense of individual rights and protecting individual rights at the expense of the public good that runs throughout the decisions on the reproductive right. This tension surfaces in many Court decisions about fundamental rights, underlying, for example, the restriction on free speech that allows falsely yelling “fire” in a crowded theater to be ruled illegal.²⁸ The language in these decisions—about the state’s legitimate interest in regulating the right to privacy and to liberty—demonstrates that at no point has the Court considered the right to privacy, liberty, or reproduction untouchable. It has never defined the right to reproduction as immune from considerations of the public good. There is no precedent for defining the right to reproduce either as the right to produce an unlimited number of children or as a right disconnected from its consequences, including population growth and climate change.

Most recently in 2001, the Wisconsin Supreme Court addressed the right to reproduce from a different angle. In *State v. Oakley*, the court had to decide “whether as a condition of probation, a father of nine children, who has intentionally refused to pay child support, can be required to avoid having another child, unless he shows that he can support that child and his current children.”²⁹ The court acknowledged the idea of a constitutional right to procreate. But it determined that the right could be suspended, if its suspension withstood strict scrutiny, because “it is well-established that convicted individuals do not enjoy the same degree of liberty as citizens who have not violated the law.”³⁰ Thus, limiting procreation as part of his sentence is “not overly broad and is reasonably related to Oakley’s rehabilitation.”³¹ This case focused directly on the suspension of the right to reproduce, and as such is relevant because of its

²⁸ This oft-used example comes from Justice Oliver Wendell Holmes’ opinion in *Schenck v. United States*, 249 U.S. 47 (1919).

²⁹ *State v. Oakley*, 629 N.W.2d 200 (2001) § 452.

³⁰ *State v. Oakley* § 464-6.

³¹ *State v. Oakley* § 452.

implications for the fundamental character of the right, even though the suspension itself does not relate to this thesis because it focuses on individual punishment rather than the public good.

International Human Rights Treaties

Major international human rights treaties list the rights that the international community has agreed (to some extent) are fundamental. The foundational document, the Universal Declaration of Human Rights (UDHR), does not include the right to reproduce. It only declares that all humans “have the right to marry and to found a family” and that “[m]otherhood and childhood are entitled to special care and assistance.”³² It does state, however, both that “[e]veryone has the right to life, liberty and security of person” and that “[n]o one shall be subjected to torture or to cruel, inhuman or degrading treatment.”³³

The UN document that relates specifically to women’s rights is the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), often called the “international bill of rights for women.”³⁴ CEDAW mandates reproductive freedom. Article 16(e) states that women and men must have the “same rights to decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise their rights.”³⁵ Some commentators suggest that this article explicitly defines the right to reproductive freedom as the right to an unlimited number of children.

Others argue there are ways around such absolute language. The first argument contends

³² UN General Assembly, *Universal Declaration of Human Rights*, Resolution 217 (A) III (10 December 1948), Article 16 and 25 (2), <http://www.un.org/en/documents/udhr/>.

³³ UN General Assembly, *Universal Declaration*, Article 3 and 5.

³⁴ “Overview of the Convention,” Convention on the Elimination of All Forms of Discrimination Against Women, <http://www.un.org/womenwatch/daw/cedaw/>.

³⁵ UN General Assembly, *Convention on the Elimination of All Forms of Discrimination Against Women*, United Nations Treaty Series 1249, page 13 (18 December 1979), Article 16(e), <http://www.un.org/womenwatch/daw/cedaw/text/econvention.htm#intro>.

that since it requires women to “responsibly” choose the number of children, CEDAW does not grant women a blank check regarding reproduction. The second proposes that Article 16 is an equal protection clause, ensuring that men and women have equal reproductive rights. But because no other UN documents grant men the right to unlimited reproduction—instead using the language of the creation of a family—this article only grants women and men equally limited reproductive rights.³⁶ The third argument points out that while only eight countries abstained from signing UDHR, only 98 of 186 parties in the UN have signed CEDAW.³⁷ The low number of signatories implies that the international consensus on the rights embodied in CEDAW is not as robust as the consensus on the rights in the UDHR. Whatever the exact right that it confers, CEDAW provides no guidance on how to balance unlimited reproduction (if that is the right it defines) with a state’s interest in regulating reproduction for the public good. Thus, it does not advance a moral solution to the competing pulls of the reproductive right and the potential negative environmental consequences of population growth.

A comment by a speaker at a public hearing in Brazil for the report *Our Common Future* illustrates why, in refusing to address the balance between reproductive rights and population growth, CEDAW may not adequately protect human rights. In response to reports about survival strategies for Amazonian dwellers living in areas of severe environmental damage, the speaker asserted: “You talk very little about life, you talk too much about survival. It is very important to remember that when the possibilities for life are over, the possibilities for survival start.”³⁸ The distinction here is key: human rights are not only those that guarantee existence, but those that

³⁶ Dillard, “Rethinking the Procreative Right,” 31.

³⁷ United Nations Treaty Collection, “Status as at: 07-03-2011,”

http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-8&chapter=4&lang=en.

³⁸ Speaker from the floor, WCED Public Hearing, Sao Paulo, 26-29 October 1985 in *Our Common Future* edited by Bruntland, Chapter 1 (II), box between #48 and #49. Thanks to Sheila Jasanoff for bringing this quotation to my attention.

allow human flourishing, that is, “life” rather than “survival.”

Philosopher and economist Amartya Sen emphasized the conception of a meaningful human existence that underlies human rights, noting that “Aristotle’s writings on freedom and human flourishing provide good background material for the contemporary ideas of human rights.”³⁹ The UDHR echoes this concern with its provision for the “free and full development of personality.”⁴⁰ Regardless of the reproductive right that CEDAW defines, the ultimate aim of human rights discourse is the realization of a full conception of human rights. If population growth and climate change will undermine that, then a treaty protecting the reproductive right as absolute despite its contribution to human rights violations is a contradiction. This quotation suggests that “limiting procreation per se is not inconsistent with a human rights perspective—and indeed is necessary to the integrity and longevity of a system in which rights, mutually limiting and giving rise to correlative duties, have meaning.”⁴¹

The Bible

Certain passages of the Bible, especially the Ten Commandments and The Sermon on the Mount, have guided legal and moral determinations for centuries, even in secular states. Neither contains guidance on reproductive rights. Still, as Chapter 4 examines in more detail, most conservative Christians assert that the Bible forbids reproductive freedom because of God’s command in Genesis to “Be fruitful, and multiply.”⁴² Many conservative Catholics and Evangelical Christians view controlling population size through contraceptives or abortion as “playing God.”⁴³ The Protestant Church embraced birth control in 1930, but the Catholic Church

³⁹ Amartya Sen, “Universal Truths: Human Rights and the Westernizing Illusion,” *Harvard International Review* 20, no. 3 (Summer 1998), <http://hir.harvard.edu/universal-truths>.

⁴⁰ UN General Assembly, *Universal Declaration*, Article 29.

⁴¹ Dillard, “Rethinking the Procreative Right,” 63.

⁴² Genesis 1:28 in the King James Version.

⁴³ Jim Presswood (Air and Energy Staff, NRDC), in interview with the author, 31 January 2011.

confirmed its ban on contraception in 1968, stating that when using contraceptives, man usurps God's role. While these religious commands greatly influence how conservative Catholic and Evangelical Christians understand the morality of reproduction, they do not provide a foundation for secular American conceptions of rights as do the more secular Biblical mandates, like the prohibition on murder.

Population Philosophers

Philosophies supporting and denying the right to unlimited reproduction fall into the categories established above. One side emphasizes rights language and the importance of individual rights as the basis of any action. Prioritizing the means over the ends, they argue that any measure not based on individual rights cannot be moral. The other side consists of consequentialists, who include the ends as well as the means in their judgment of morality. These philosophers "claim that without more forceful efforts to control the world's population, individual choice and human rights will come to be increasingly violated as resources are depleted and poverty, disease, and social unrest place an ever greater burden on peoples worldwide."⁴⁴

This logic can be based on one of two options. First is the Kantian view that the public good is something distinct from the aggregate of individual goods, leading to an understanding of the state as antecedent to individual rights and placing policies for the general good over individual rights. Second is utilitarianism, which defines the "interest of the community" as "the sum of interests of the several members who compose it."⁴⁵ According to this rationale, if the sum of the problems that population growth causes is larger than the sum of the problems with

⁴⁴ Bok, "Population and Ethics," 8.

⁴⁵ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Oxford: Clarendon Press, 1907), Chapter 1, <http://oll.libertyfund.org/title/278>.

limiting the right to reproduction, then reducing population growth is the first priority. These competing understandings do not shed light on the nature of the right to reproduce, but rather on the rationale underlying the protection of different rights.

The Right to Reproduce

The sources examined above do not provide a unanimous moral guide to the rights embedded in reproduction and population growth. But they imply two things: first, that the right to reproduce is not commonly defined as the right to unlimited reproduction; and second, that the right to privacy and liberty that underlie the right to reproductive freedom must be balanced against the state's interest in regulating those rights. Neither American law nor most UN treaties place the reproductive right outside the sphere of normal rights-balancing by governments. The right to the continuation of the species is sometimes considered absolute, implying that actions which harm the continuation of the species, even reproduction to found a family, may be subordinated. This is not to suggest that there is no reproductive right—there is, as numerous cases and agreements have charted. It is to say that the reproductive right is the narrow right to produce a number of children decided not only by private, autonomous, individual choice, but also by society's and the individual's own capacity to care for those children.

POPULATION AND CONSUMPTION

What is a legitimate state interest in, and thus a strong moral reason for, regulating the right to reproduce? The answer depends on the consequences of reproductive freedom. In some places, exercising the right to reproduce may cause population growth or population stabilization at a high level. In other places, because fertility rates are low, the exercise of reproductive freedom may result in population decline. In both places, population contributes to climate change because it influences carbon emissions. To the best of our knowledge, climate change

does and increasingly will harm the public good in a number of ways, as the introduction explained. So, the state has a legitimate interest in mitigating and adapting to climate change. But according to this rationale for limiting population growth, the state must consider consumption as well. In most countries where population growth is minimal, consumption (on a per capita and aggregate measure) is high. In many countries where the population is growing, consumption is also growing. And consumption is the other factor that, along with population growth, determines anthropogenic greenhouse gas emissions, whether the two increase together or separately. So, under the climate change mitigation and adaptation rationale, states must address both population growth and consumption to justify a legitimate state interest in regulating either.

The moral mandate for considering both the role of population growth and consumption in causing climate change arises when trying to allocate blame and thus responsibility fairly. Measuring a country's annual greenhouse gas emissions does not accurately represent its proportional responsibility for climate change because most greenhouse gases, especially carbon dioxide, have a long lifetime in the atmosphere (1800 to 5000 years). Thus it is countries that have been highly developed for a long time—the United States, Europe, and Japan—that carry the main responsibility for the present human contribution to climate change. China, which in 2007 overtook the United States as the world's largest annual carbon dioxide emitter, is projected to beat the United States in cumulative emissions in 2050. India will catch up soon after.⁴⁶ Until then, the developed world is and will continue to be disproportionately responsible for climate change, but the least developed countries are those most at risk of its negative

⁴⁶ W.J.W. Botzen, J.M. Gowdy and J.C.J.M. Van Den Bergh, "Cumulative CO2 emissions: shifting international responsibilities for climate debt," *Climate Policy* 8, no. 6 (2008), 570, <http://www.ingentaconnect.com/content/earthscan/cpol/2008/00000008/00000006/art00004>.

consequences.⁴⁷

Both the fact that the developed nations are primarily responsible for climate change now and that developing nations will increasingly contribute to climate change in the future prioritizes the population/consumption question. Blaming climate change on population growth, which occurs primarily in the developing world, is equivalent to blaming climate change on the people who have contributed least but will face the most harm. But acknowledging only the role of consumption, in order to emphasize the developed world's historical role, ignores how population growth will contribute to climate change in the future, especially as growing populations consume more.

Roger Martin, President of the Optimum Population Trust (OPT), connected all these pieces in an interview. OPT, a British population and environment organization, gained attention last year for its PopOffsets program. This program allows people “to offset their carbon footprint by funding the unmet need for family planning and the removal of the many barriers to women who want smaller families.” Potential donors are asked to calculate their carbon emissions using an online calculator and then donate money that would pay for enough contraceptives to offset in reduced number of children the donor's calculated emissions.⁴⁸ When asked in a 2010 BBC interview if high consumption in the developed countries means that environmentalists need only to focus on population growth there, Martin explained why that was not the case:

Martin: The poor want to get rich and I want them to get rich. And when they are rich, they're going to consume more carbon, and it will matter enormously then whether Uganda, as it were, is 33 million people or 860 million people, when they are all living like we do.

⁴⁷ Adil Najam, Saleemul Huq, and Youba Sokona, “Climate Negotiations Beyond Kyoto: Developing Countries Concerns and Interests,” *Climate Policy* 3, no. 3 (September 2003): 224-225.

⁴⁸ “Welcome to PopOffsets,” PopOffsets, <http://www.popoffsets.com/>.

Gracie: But surely the point then is to change consumption habits.

Martin: Yes, but you keep suggesting that there is just one solution. We don't deny any of this. Of course we have to change consumption habits, we have to address technology, we have to get used to a steady state economy with reduced consumption, radically reduced ... but we've also got to stabilize our numbers. If we don't, then all these other policies are ultimately going to fail to produce a sustainable world.⁴⁹

Martin rightly states that his organization recognizes all of these interconnections. OPT's homepage states that "developed countries must both reduce their relatively high level of consumption, with the many adverse impacts on resources and the environment this causes, and help developing countries to improve their living standards."⁵⁰ But Martin points to more than a laundry list of what must be done to save the environment. He explains the importance of criticizing consumption in addition to population growth, in order to not shift the blame for climate change to the developing world, despite its historical low level of emissions.

Joseph Speidel, a professor at UCSF's Bixby Center for Global Reproductive Health, connects population growth and consumption as well. In an article for the *Philosophical Transactions of the Royal Society*, Speidel asserts that

[b]etter reproductive healthcare and decreased population pressures are essential but insufficient components of the transformed economy needed to preserve the environment. *The global community must cease the profligate and ecologically unsustainable exploitation of natural resources.* There is an urgent need for people everywhere, and especially high-consuming Americans, to advance a new economy that reduces consumption and the resulting waste and pollution.⁵¹

Speidel, a doctor focused on reproductive health, serves on the Board of Population Connection. But, in this philosophical piece, he lists a reduction in consumption as equally important to reducing population growth worldwide. This leaves the space for each nation or group to focus on its contribution to climate change, rather than exclusively blaming population growth in the

⁴⁹ Roger Martin, Interviewed on "Hardtalk" by Carrie Gracie, BBC, 13 December 2010, http://news.bbc.co.uk/2/hi/programmes/hardtack/9281866.stm?utm_source=twitterfeed&utm_medium=twitter.

⁵⁰ Homepage, Optimum Population Trust, <http://www.optimumpopulation.org/index.html>.

⁵¹ Speidel et al., "Population policies," 3061.

developing world for climate change and designing ineffective policies based on that mistaken assumption.

The tension between population growth and consumption as the cause of climate change is relevant to the moral arguments underlying discussions of both domestic population growth and American international aid. The United States has one of the highest per capita consumption levels in the world, but also funds environmental and health programs in developing regions with rapid population growth. Thus the balance between the two is both a moral and a practical concern. In a 2010 speech, Paul Ehrlich addressed this relationship. He called the “it’s only consumption” view, “gibbering nonsense,” adding that

the analogy I like to use in saying that consumption is what makes a difference, not population size, is like saying, ‘it’s the width of a rectangle that contributes much more to its area than the length of a rectangle.’ What you can talk about in this context, though, is which part of the rectangle you might be able to work on more easily. It might be that the length of the rectangle has got something blocking it, and you could go change the width, if you want to change the area; the area in this case, in the IPAT equation, being the amount of damage your society does to its life support systems.⁵²

Addressing the moral and, later, the practical impediments to population growth translates to figuring out what can legitimately keep the length of the rectangle from increasing uncontrollably. While the moral obstacles to limiting high consumption do not seem insurmountable, the moral impediments to reducing population growth are more substantial. What blocks population policy?

AVOIDING COERCION

The problem with policies setting a strict legal limit on reproduction is not that reproduction is too fundamental to be limited, but that, unlike with consumption, there is no way

⁵² Paul Ehrlich, Speech at the Population Strategy Meeting, 4 October 2010, Washington, DC, <http://www.populationmedia.org/2011/01/10/paul-ehrlich-on-the-millennium-assessment-of-human-behavior/>.

to enforce limitations on reproduction without violating other fundamental rights. Not everyone agrees that mandatory policies violate human rights. At the 1993 UN World Conference on Human Rights, the Chinese government vehemently defended its coercive population control policies, “arguing that its approach was indispensable to achieving the goals necessary to the well-being of Chinese society as a whole and, given the size of China’s population, of the world.”⁵³ Like the Chinese government, the U.S. Supreme Court has decided that acting for the wellbeing of society justifies policies that limit individual rights. Numerous societies have accepted that rights balancing is not morally problematic, but indeed the primary responsibility of a government. The objection to the Chinese one-child policy, then, must come from elsewhere.

Two criticisms of coercive population policies are that they are cruel, inhuman, and degrading and that they violate the security of the person. Bok writes that “[a]dvocates of voluntarism in the use of family planning methods reject the coercion involved in imposing or prohibiting such methods as precisely cruel, inhuman, and degrading.”⁵⁴ This language comes from Article 5 of the UDHR which prohibits “cruel, inhuman, or degrading treatment.”⁵⁵ Coercive population policies are cruel, inhuman and degrading because they are enforced within men’s and women’s bodies. To enforce these policies, the state must intrude, often on a regular basis, into its citizens’ bodies even against their will.

The physical site of enforcement grounds the second criticism as well, which suggests that mandatory policies violate the right to “security of person” established in Article 3 of the UDHR. The violation of the security of persons seems obvious when population policies involve intrusion into the autonomous body of the citizen. While the definition of cruel, inhuman, and

⁵³ Bok, “Population and Ethics,” 15.

⁵⁴ Bok, “Population and Ethics,” 14.

⁵⁵ UN General Assembly, *Universal Declaration*, Article 5.

degrading treatment invites interpretation—as the Bush administration’s definition of torture illustrates—the definition of security of person is clearer. Whether an abortion is cruel and degrading seems more dependent on context than whether performing an unwanted surgery on a physically restrained woman is a violation of her security of person. Security of person rests on the physicality of the action, while cruel and inhuman treatment depends on social perceptions about that action.

Either way, population policies that mandate and enforce a specific number of children violate fundamental rights—not the right to unlimited reproduction, but the right to security of person and freedom from cruel, inhuman, and degrading treatment. Because there is no way to mandate a specific number of children without violating those rights, population policies with a mandatory child limit cannot be moral. Maintaining the emphasis on non-coercive policies even as population growth is tied to climate change is crucial. Betsy Hartmann, a professor at Hampshire College known for her criticism of population programs, “worr[ies] that this climate alarm will bring back coercion,” even though she knows that “it’s much less politically acceptable now to promote coercion in population or family planning programs.”⁵⁶ Coercive population policies cannot be justified morally, even in the face of climate change.

UNEVEN PROVISION OF SERVICES

Another moral trap that population policy can fall into is the uneven provision of family planning services. The uneven provision of health services across any population causes moral quandaries because choices about the distribution of those services become choices about who can enjoy good health and even survive. The inconsistent availability of reproductive health services is especially fraught because it determines not only who can have good health, but also

⁵⁶ Betsy Hartmann (Professor at Hampshire College), in interview with author, 28 September 2010.

who can control their reproduction, and thus who can and cannot have children. The similar methods of protecting reproductive rights and reducing population growth—the provision of contraception to whoever wants it—can make it appear that the goal of the service delivery is reducing certain populations. While aiming to reduce the global population size for a global environmental benefit is defensible, targeting certain areas without clear reason or benefit to that area is morally problematic.

Associations with racism and eugenics have long plagued the population movement. Thomas Malthus and Margaret Sanger, two advocates of very different causes and from different historical periods, both suggested that the poor should be stopped from reproducing before anyone else. Population programs in the 1960s and 1970s targeted high population growth areas, which tended to have non-white populations. American domestic family planning programs tend to provide services to poor, non-white populations. The conjunctions between target areas and non-white populations make it appear possible that population stabilization programs target non-whites in order to reduce their numbers as a racial group.

In the United States, the uneven use of free family planning services and clinics has led to accusations of racism and even genocide. The United States lacks universal medical care and insurance that covers all reproductive health services, especially abortion. So there is a large demand for non-governmental organizations, such as Planned Parenthood, to fill that gap with free services. Planned Parenthood is the largest provider of sexual and reproductive health services in the United States, operating 820 health centers and serving over 5 million women annually.⁵⁷ As the main reproductive health NGO, it is also the main target for anti-abortion and anti-population stabilization activists.

⁵⁷ “Planned Parenthood At a Glance,” Planned Parenthood, <http://www.plannedparenthood.org/about-us/who-we-are/planned-parenthood-glance-5552.htm>.

An especially harsh accusation comes from the Northeastern part of the Life Education and Resource Network (LEARN), a “national network of Christian pro-life/pro-family advocates” that aims “to facilitate a strong and viable network of African American and minority pro-life/pro-family advocates.”⁵⁸ The Network hosts a website, www.blackgenocide.org, which accuses Planned Parenthood, as the name suggests, of genocide against blacks.

Planned Parenthood is the largest abortion provider in America. 78% of their clinics are in minority communities. Blacks make up 12% of the population, but 35% of the abortions in America. Are we being targeted? Isn't that genocide? We are the only minority in America that is on the decline in population. If the current trend continues, by 2038 the black vote will be insignificant.⁵⁹

The disproportionate use of Planned Parenthood's services, this website suggests, proves that Planned Parenthood aims to reduce the size of the black population through abortion in order to reduce its political influence.⁶⁰ Another similar, but more nuanced, accusation is that Planned Parenthood and other reproductive health organizations are located disproportionately in minority neighborhoods to encourage the use of reproductive health services among those populations and thus reduce their birth rate. The website makes the connection to the population movement explicit: it devotes a page to debunking the “overpopulation myth.” Overpopulation is a “myth,” the page claims, because if everyone in the world had a standard-sized American

⁵⁸ “Who We ARE,” Life Education and Resource Network (LEARN), <http://blackgenocide.org/who.html>.

⁵⁹ “Planned Parenthood,” LEARN, www.blackgenocide.org.

⁶⁰ This story seems to have caught on to some extent. FOX News echoed this suggestion in a 2008 story about black pastors protesting Planned Parenthood in 2008, with the weight of the article implying that Planned Parenthood was, in fact, a racist organization. Kelley Beaucar Vlahos, “Pastors Accuse Planned Parenthood for ‘Genocide’ on Blacks,” *FOX News*, 24 April 2008, <http://www.foxnews.com/story/0,2933,352537,00.html>. A Google search of the term “black genocide” combined with “Planned Parenthood” returns 48,800 results. Google search of “‘black genocide’ + ‘Planned Parenthood’” for English websites only conducted on 12 January 2011. http://www.google.com/search?q=black-genocide+%22planned+parenthood+%22&hl=en&num=10&lr=lang_en&ft=i&cr=&safe=images&tbs=#sclient=psy&hl=en&lr=lang_en&tbs=lr:lang_1en&q=%22black+genocide%22+%22B+%22planned+parenthood%22&aq=f&aqi=g-v2g-o1&aql=f&oq=&gs_rfai=&pbx=1&fp=9bef8cda26d1a6ec. Searching with these two connectors ensures that the only website returned are those with both the exact phrase “Planned Parenthood” and the exact phrase “black genocide” on them.

home, that would only cover a landmass the size of Texas.⁶¹

LEARN's assertion is that blacks are overrepresented in percentage of abortions compared to percentage of the population. This is true: 30% of abortions occur to black women, 36% to white women, and 25% to Hispanic women,⁶² while black women only make up about 13% of the female population.⁶³ However, these statistics do not prove that Planned Parenthood is targeting blacks in order to reduce their numbers. It is far more plausible that Planned Parenthood seeks to operate where demand for its services is highest. According to research from the Guttmacher Institute, an organization known for its objective reproductive health and services statistics,⁶⁴ half of the pregnancies in America are unintended. Broken down by race, 40% of pregnancies among white women, 69% among black women, and 54% among Hispanic women are unintended.⁶⁵ The high percentage of abortions among blacks and the location of Planned Parenthood clinics in areas accessible to blacks and Hispanics are thus more plausibly attributable to the higher percentage of unintended pregnancies among those populations than a plot of genocide against them.

The accusations of international racism echo the claims of domestic racism, especially the similar unease about donors' motivations. Population opponents suggest that richer nations contribute to poorer nations, just as rich individuals contribute to Planned Parenthood, in order to lower the number of people in, and thus the resources consumed by, the developing world.

⁶¹ "Did You KNOW," LEARN, <http://www.blackgenocide.org/facts.html>. I have heard anecdotally that this is a teaching common in confirmation classes in conservative Christian churches, but I was not been able to confirm this.

⁶² "Facts on Induced Abortion in the United States," Guttmacher Institute, May 2010, http://www.guttmacher.org/pubs/fb_induced_abortion.html. I compiled the averages based upon the abortion rate by race reported to the U.S. Census from 2000 to 2005. The U.S. Census did not provide the aggregated data.

⁶³ "Table 6: Resident Population by Sex, Race, and Hispanic-Origin Status: 2000 to 2008," U.S. Census Bureau, <http://www.census.gov/compendia/statab/cats/population.html>.

⁶⁴ "About the Guttmacher Institute," Guttmacher Institute, May 2010, <http://guttmacher.com/about/index.html>. The Guttmacher Institute helps to provide numbers to the U.S. Census Bureau, suggesting that its numbers are some of the most accurate and unbiased—a hard thing to find in research on this topic.

⁶⁵ "Facts on Induced Abortion," Guttmacher Institute.

Reduced competition for resources would gain the United States easier access to those resources.

America donates to population programs in the developing world through the USAID and the United Nations Population Fund (UNFPA). Since 1965 when it started funding population programs, USAID has been a “global leader” in funding and assisting population programs around the world,⁶⁶ despite the fact that America has never had any domestic population program. The UN established the UNFPA in 1967 to aid the transfer of funding and contraceptive technology to the developing world, and it too remains a top funder of population policies.⁶⁷

American motives for supporting population programs in the developing world from the 1960s to the 1980s varied, but they were largely based on perceived self-interest. When he established USAID in 1961, President John F. Kennedy justified this move partly on a competitive rationale: he argued that the economic collapse of developing countries would “be disastrous to our national security [and] harmful to our comparative prosperity.”⁶⁸ More bluntly, the Third World’s rapid population growth “put an ominous shadow on the economic prospects of the less developed countries, and, by the same token, lowered the chances for an outcome advantageous for the West in the Cold War competition with the Soviet bloc.”⁶⁹ The internal security argument for population programs was one of the most appealing to Americans at the time. Similar arguments motivated financial support for the Green Revolution.

The self-interested reasoning continued throughout the 1970s. In December 1974, President Gerald Ford released a National Security Study Memorandum, called “The Kissinger

⁶⁶ Barbara O’Hanlon, “USAID’s Funding Decisions on Reproductive Health and Family Planning,” Paper Commissioned by the Hewlett Foundation, April 2009, <http://www.scribd.com/doc/35165686/USAID%E2%80%99s-Funding-Decisions-on-Reproductive-Health-and-Family-Planning-2009>, 7.

⁶⁷ Sandra Lane, “From Population Control to Reproductive Health: An Emerging Agenda,” *Social Science and Medicine* 39, no. 9 (November 1994), <http://linkinghub.elsevier.com/retrieve/pii/027795369490362X>.

⁶⁸ John F. Kennedy, quoted in “About USAID,” 3 April 2009, http://www.usaid.gov/about_usaid/usaidhist.html.

⁶⁹ Demeny and McNicoll, “World Population,” 7.

Report,” named for Secretary of State Henry Kissinger. It recommended that the United States support population control programs in the LDCs because

the political consequences of current population factors in the LDCs—rapid growth, internal migration, high percentages of young people, slow improvement in living standards, urban concentrations, and pressures for foreign migration—are damaging to the internal stability and international relations of countries in whose advancement the U.S. is interested, thus creating political or even national security problems for the U.S.⁷⁰

The report repeated its overtly nationalistic language when it suggested that population “moderation” assistance go primarily to the “largest and fastest growing developing countries where there is special U.S. political and strategic interest.”⁷¹ The report even questioned whether population programs should be organized by the National Security Council’s Under Secretaries Committee rather than the Development Coordination Committee of USAID, where all population programs and other international aid had centered in the past.⁷²

That the United States designed foreign policy to advance its interests is neither surprising nor blameworthy: Henry Kissinger, as the National Security Advisor, was supposed to ensure national security. But it was the use of population control as a tool that inspired accusations of racism and unfair treatment of those in other countries. Kissinger was aware of this criticism, warning that

our activities should not give the appearance to the LDCs of an industrialized country policy directed against the LDCs. Caution must be taken that in any approaches in this field we support in the LDCs are ones we can support within this country. ‘Third World’ leaders should be in the forefront and obtain the credit for successful programs.⁷³

To Kissinger, the problem was not the underlying morality but the perception and political impact of this effort.

⁷⁰ *National Security Study Memorandum 200*, Executive Summary #19.

⁷¹ *National Security Study Memorandum 200*, Executive Summary #30(a). These countries included India, Bangladesh, Pakistan, Nigeria, Mexico, Indonesia, Brazil, the Philippines, Thailand, Egypt, Turkey, Ethiopia and Colombia.

⁷² *National Security Study Memorandum 200*, Executive Summary #39.

⁷³ *National Security Study Memorandum 200*, Executive Summary #33.

The Kissinger report also suggested that the United States should “announce a U.S. goal to maintain our present national average fertility no higher than replacement level and attain near stability by 2000.”⁷⁴ Calling on the United States to have a population policy implies that international population assistance was designed not to improve America’s relative position compared with other countries, but rather to improve conditions in the world as a whole. This counterbalances the accusations of racism.

The problem that remains, though, is that the methods explicitly or implicitly supported in achieving this goal did not follow democratic procedures. A section of the Kissinger Report entitled “An Alternative View” states that “a growing number of experts” hold

that the severity of the population problem in this century which is already claiming the lives of more than 10 million people yearly, is such as to make likely continued widespread food shortage and other demographic catastrophes. ... The conclusion of this view is that mandatory programs may be needed and that we should be considering these possibilities now.⁷⁵

This section also suggests that America may need to limit its population and consume protein more effectively. But the unequal treatment arises from the fact that the United States did not institute any population measures or food rationing because American citizens objected, while in other countries, the United States helped fund and implement population policies regardless of how local citizens felt and whether they had opportunities to react.

Local democratic procedures in Bangladesh could not moderate America-financed population programs because the policies ignored local procedure and feedback. Instead, as Hartmann describes,

[i]n areas of Bangladesh, population control programs were in full force, indiscriminately putting women on the pill, injecting Depo-Provera, or inserting IUDs, without offering adequate medical screening, supervision, or follow-up. Most of the programs only targeted women, ignoring male responsibility for birth control. Due to the poor quality of

⁷⁴ *National Security Study Memorandum 200*, Executive Summary #31(c).

⁷⁵ *National Security Study Memorandum 200*, Part II, Section I(E).

the services, many women experienced negative side effects and became disillusioned with contraception. The government's response was not to reform the programs to meet women's needs but instead to further intensify its population control efforts by pushing sterilization.⁷⁶

Bangladesh was on Kissinger's list of countries prioritized for population assistance and USAID has supported population programs in Bangladesh since 1971.⁷⁷ Thus, the moral concern arises from the fact that despite recognizing the problems with domestic and international population growth, the United States supported international population stabilization programs—even coercive ones—but no domestic programs.

Hartmann criticizes American population policy as one in which “[u]pper- and middle-class people have the right to voluntary choice as to whether and when to bear children, but the rights of poor people are subordinate to the overriding imperative of population control.”⁷⁸ The most nuanced criticism of American aid to international population programs is that the inherent power imbalance between rich and poor or whites and non-whites can be especially exacerbated when the issue is as personal and consequential as reproduction.

All UNFPA and USAID population programs now revolve around the Cairo Consensus, which only accepts programs designed around the individual demand for contraceptives. Since this norm ensures that the United States no longer funds any coercive or even target-based programs, American policy is now consistent domestically and internationally. But the Cairo Consensus will not solve all the problems surrounding the uneven provision of services if, as this thesis recommends, the United States considers supporting more overt population policies. Reproduction is a highly personal choice, despite its wider social consequences. The choice to reproduce determines who exists, and state intrusion into the question of who lives or not

⁷⁶ Betsy Hartmann, *Reproductive Rights and Wrongs: The Global Politics of Population Control*, Rev ed. (Boston, MA: South End Press, 1995), xvi.

⁷⁷ “Program Summary,” USAID, 28 June 2008, <http://www.usaid.gov/bd/program.html>.

⁷⁸ Hartmann, *Reproductive Rights*, 15.

requires careful consideration.

The state often makes the distinction between rightful and wrongful limitations of rights. The decision to jail a person because a jury judged her guilty of a crime after careful deliberation is very different from the decision to jail a person because of race without any judicial process. The former is a legitimate state act, while the latter would be arbitrary and unacceptable discrimination. This same principle holds for population policies, even if they are voluntary and thus do not undermine anyone's liberty. Targeting certain groups for family planning services because they contribute more to climate change or to help them adapt to climate change is not the same as providing family planning services to a certain region because of its racial or ethnic composition. The distinction between these two is hard to ascertain because it requires inquiry into the (possibly unexpressed) rationale for action. But in considering the morality of action, motivations are important both in the abstract and for the practical influences they have over time.

OBLIGATIONS AND AGENCY

Another non-coercive approach to considering reproductive decisions in the context of environmental degradation is framing those decisions in terms of obligations. Bok follows the moral philosopher Onora O'Neill's lead in suggesting that the absence of the language of obligations in the population discussion is unusual.⁷⁹ In many other arguments about rights, a key component of the discussion is the responsibilities and obligations that accompany that right. This is especially relevant to the right to reproduce because it is entangled with substantial responsibility—to the spouse, the child, the family, and the community in which the child is raised.

⁷⁹ Onora O'Neill, quoted in Bok, "Population Ethics," 17.

In the past, the population movement has been much more explicit in asking people to consider the responsibilities of childbearing and living on a finite planet. In a special statement clarifying the organization's policies in the *ZPG National Reporter* in 1970, Paul Ehrlich, the president, wrote that ZPG "encourage[s] every person to exercise the utmost responsibility in his own reproduction and to recognize that having large families is socially irresponsible." ZPG opposed "legal compulsion," but emphasized "individual responsibility." Ehrlich even connected responsibility for population growth to consumption. He emphasized that the "affluent Americans, since they consume the most, pollute the most, and place the greatest burden on the world's limited resources, have special responsibility."⁸⁰ A later ZPG article on the legal right to have children frames that right in terms of obligations as well: "under International Law there is a right to found a family which includes some right to have children. But there is certainly no right to have as many children as irresponsible individuals or nations might want."⁸¹

The emphasis on obligations remains important today, despite the dearth of explicit public statements. There may be less published on the obligations of reproduction than was expressed in my research interviews because of the post-Cairo Consensus fear of saying anything that can be interpreted as suggesting an optimum number of children for women. From the Cairo Plan of Action to the Millennium Development Goals, asking that women factor in their own health into reproductive choice is far more acceptable than to ask them to consider the health of the planet.

Most of the people I interviewed responded affirmatively to the question whether women

⁸⁰ Paul Ehrlich, "SPECIAL STATEMENT FROM THE PRESIDENT OF ZPG," *ZPG National Reporter* 2, no. 3 (March 1970), 2.

⁸¹ John Montgomery, "Populex: Legal Questions and Answers," *ZPG National Reporter* 3, no. 2 (February 1971), 36.

have a right to reproduce, and, unlike Dillard and the U.S. Supreme Court, to the idea that a woman's right to reproduce is unlimited. A staffer at the Population Reference Bureau, the non-advocacy governmental group on population, stated that it is "people's basic right to have the number of children they want."⁸² Most, though, then qualified the right they had just asserted to be unqualified, by pointing out that women also have a "responsibility" to consider the impact of their chosen number of children. Heather D'Agnes, a technical advisor at USAID, stated that "women have the right to think about their children in whatever way they want." A few moments later, though, she added that women "do have a responsibility to consider the impact of their family on their ability to care for them."⁸³ This type of response was common, especially among staff at governmental agencies: asking women to consider their financial ability and their health when having children tends to be viewed as acceptable, even when discussing the responsibility to consider environmental impact is not.

Some of my interviewees, though, explicitly mentioned environmental impact. These were mainly staff at NGOs. Bob Walker, from the Population Institute, declared that having numerous children, "from the standpoint of the planet [is] irresponsible. ... I regard that as a selfish act." He explained, "I'm not telling you how many children to have, I'm just saying that when people consider how many children to have, one of the factors to be considered is the impact of those children on the environment."⁸⁴

Describing the responsibilities that come with the reproductive right emphasizes individual agency because it frames the whole population issue in terms of rights. The responsibility to consider the impacts of childbearing is meaningless without the right to

⁸² Representative from PRB, in interview with the author, 1 June 2010.

⁸³ Heather D'Agnes (Population-Environment Technical Adviser, USAID), in interview with the author, 16 June 2010.

⁸⁴ Robert Walker (Executive Vice President, The Population Institute), in interview with the author, 28 May 2010.

reproduce and the ability to exercise that right. It can even circumvent the question of the extent of the reproductive right because public obligation becomes a matter of educating individuals about their responsibilities rather than mandating certain choices. Exact numbers do not have to underlie conceptions of responsibility.

However, an emphasis on obligations can be problematic for three reasons. First, on a practical level, many people cannot always conceptualize the environmental burden their children create. The PRB staffer argued that talking about global climate change is ineffective because most people change their behavior only when they understand how the change will directly affect them. Climate change makes distance obvious because the marginal impact of one child on the climate seems irrelevant. An individual's role in providing for her children, on the other hand, is more direct and less dependent on others' action.

Second, and this is hugely important, most women do not consciously choose to have children. When asked about the responsibilities associated with the choice to reproduce, Marian Starkey from Population Connection (formerly ZPG) pointed out that this question is irrelevant in half of the cases—50% of all pregnancies in the United States are unintended and 10% of all births are unwanted.⁸⁵ Worldwide, there are an estimated 215 million women with an unmet need for contraceptives who, until that need is met, will continue to have more children than they want. For these women, the question is not about exercising their freedom to reproduce or assuming the responsibilities that come with that decision, because becoming pregnant is not an active decision in the first place.

Finally, the context in which these obligations are emphasized matters tremendously. Understanding but then rejecting the obligations is more feasible for a highly educated than a

⁸⁵ Marian Starkey (Director of Communications, Population Connection), in interview with the author, 11 June 2010. These widely cited facts are from the Guttmacher Institute.

poorly educated person. The role of context is especially relevant in analyzing the nudges and incentives discussed in Chapter 5. But the underlying moral concern about encouraging people to act a certain way without giving them real options to choose from remains relevant in discussions of reproductive rights and obligations.

LOOKING TO POLICY

Population policy can encourage certain childbearing patterns without violating fundamental rights. To do so, the policies must follow firm guidelines: they cannot mandate an exact number of children, punish children who are already born, or emphasize population growth rather than consumption as the main contributor to climate change. A range of policies based on incentives and nudging may be possible without undermining any fundamental rights, if the principles discussed in this chapter remain the foundation of any future population policy. But, as discussed in the next chapter, what policies will work depends as much on their moral underpinnings as on the political barriers they face.

CHAPTER FOUR

POLITICAL BARRIERS TO POPULATION POLICY

FOUR BARRIERS

Even population policies that stay within the moral bounds described in Chapter 3 often arouse political opposition. The fact that environmentalism is mainly a Democratic concern which provokes moderate Republican dissent is important because it sheds light on potential political pitfalls confronting population stabilization.¹ The checkered history fuels all opponents. There are four powerful institutions that would need to be persuaded of the importance of curbing population growth for it to become politically feasible. Each institution resists efforts to stabilize population from a different angle. First, the association between parts of the population movement and anti-immigration agendas is problematic for pro-immigration and non-white environmentalists. Second, women's empowerment activists compete for funding with the population movement and contest its programmatic goals. Third, pro-life conservative Christians oppose the movement as prompting morally unacceptable policies. Fourth, growth proponents, from businessmen to politicians, fear the personal and public implications of the no-growth economy implied by population and consumption stabilization.

¹ According to Gallup polling, in 2010, 24% of Democrats were active members of the environmental movement, 50% were sympathetic to it, and 3% were unsympathetic. 75% of Democrats thought that the environmental movement had done more good than harm. For Republicans, on the other hand, only 15% were active participants, 36% were sympathetic, and 18% were unsympathetic. 49% thought that the environmental movement had done more harm than good. These trends have been relatively constant since 2000, with the only major change coming from the increase of Republicans who are unsympathetic to the environmental movement from 8% to 18%. Riley Dunlap, "At 40, Environmental Movement Endures, With Less Consensus," *Gallup Poll*, 22 April 2010, Table: "Orientation Toward Environmental Movement, by Party ID" and Table: "Perceived Impact of Environmental Movement, by Party ID," <http://www.gallup.com/poll/127487/Environmental-Movement-Endures-Less-Consensus.aspx>.

THE IMMIGRATION TANGLE

There are controversial ties between the population movement and anti-immigration groups. John Tanton personifies the connection. He was the Chairman of the Sierra Club National Population Committee from 1971 to 1975 and President of ZPG from 1975 to 1977. During his tenure there, ZPG moved in an anti-immigration direction. Before Tanton's chairmanship, ZPG carefully avoided becoming embroiled in the immigration debate. In 1970, on behalf of the organization, Ehrlich stated that "overpopulation in the United States is essentially a white middle-class phenomenon because the white middle-class majority use up more than their share of resources and do more than their share of polluting."² In June 1975, though, ZPG issued strict immigration reduction guidelines, including the "[d]iscontinuance of migrant worker programs" and "[n]o amnesty for illegal aliens."³

Numerous members took issue with the organization's new stance. The April 1975 issue of the *ZPG National Reporter* chronicled that a "number of ZPG members have expressed their concern that ZPG's involvement with U.S. immigration policy presents a conservative shift for the organization."⁴ ZPG failed to pacify its members over the next six months: the October 1975 newsletter reported that "twenty-five ZPG'ers ... wanted to cancel their membership because of our stance on immigration."⁵ Tanton left ZPG in 1977 because of a lack of support within ZPG for immigration reform, although ZPG continued to lobby more quietly for immigration reform until the 1990s. The strong opposition to ZPG's immigration policies illustrates the antagonism between liberal environmentalists who had adopted the population stabilization cause and conservative supporters of anti-immigration policies.

² Paul Ehrlich, "SPECIAL STATEMENT FROM THE PRESIDENT OF ZPG," *ZPG National Reporter* 2, no. 3, March 1970, 2.

³ "major ZPG immigration recommendations," *ZPG Reporter* 7, no. 5 (June 1975).

⁴ John Tanton, "Immigration: An Illiberal Concern," *ZPG National Reporter* 7, no. 3 (April 1975).

⁵ Bob Dennis, "Comment," *ZPG National Reporter* 7, no. 7 (October 1975), 2.

Tanton is now on the board of directors of the Federation for American Immigration Reform (FAIR), an immigration reform organization that seeks “to improve border security, to stop illegal immigration, and to promote immigration levels consistent with the national interest.”⁶ FAIR is one of the oldest and best-established American anti-immigration groups. He helped start the Center for Immigration Studies, a research center, and NumbersUSA: For Lower Immigration Levels, a lobbying organization, as well as two organizations that aim to make English the official language of the United States.⁷

Another board member of FAIR, Alan Weeden, is the President of the Weeden Foundation, a grant-making organization. According to its mission statement, the foundation seeks to “address the adverse impact of the growing human population and overuse of natural resources on the biological fabric of the planet. ... Population growth, particularly in the United States, and over-consumption have also evolved into major program interests.”⁸ The foundation’s main goal is to reduce the environmental impact of population growth and high consumption. By focusing its strategies on American population growth, the group shifts the environmental problem from American overconsumption to an overdose of immigrants. For 2010, under its “Population & Consumption” grant category, the Foundation supported the Center for Immigration Studies, Californians for Population Stabilization (CAPS), and NumbersUSA, all anti-immigration groups. In 2011, the Foundation will fund the Center for

⁶ “Board of Directors,” Federation for American Immigration Reform, http://www.fairus.org/site/PageNavigator/about/board_of_directors.html and “About FAIR,” Federation for American Immigration Reform, <http://www.fairus.org/site/PageNavigator/about/>.

⁷ He co-founded U.S. English in 1983, but resigned from it in 1988 because of offensive comments he made. “U.S. ENGLISH Chairman Saddened By Out-Of-State Smears Against Official English Supporters,” U.S. English, 17 October 2000, <http://www.us-english.org/view/74>. He was also the founding chairman and still on the board of ProEnglish, another organization advocating English as the American official language. “Board of Directors,” ProEnglish, <http://www.proenglish.org/about-us/the-board>.

⁸ “Mission Statement,” The Weeden Foundation, <http://www.weedenfdn.org/trial.html>.

Immigration Studies.⁹

The Weeden Foundation was picketed recently in a protest against tying population growth to immigration. On July 26, 2010, a hundred protesters stood outside the Weeden Foundation's offices in New York, accusing them of funding "anti-immigrant hate groups" under their "Population/Consumption Program."¹⁰ The protesters referred to the Weeden's connection both to the organizations listed above.

The July protest illustrates the political challenge of connecting population stabilization to anti-immigration—the appearance of racism. During the 1970s and 1980s, several private population organizations, USAID, and UNFPA funded population control programs, some of which were coercive, in countries with mainly non-white populations. At the same time, many of those private organizations supported anti-immigration programs within the United States. These connections have tainted the population stabilization movement. Connie Mahan, the Grassroots Director at Audubon, explains that "none of the environment groups will weigh into the domestic population/consumption issue largely because of immigration. It becomes this huge lightening rod for very difficult, uncomfortable discussions of immigration reform. It brings out all these crazy racist people."¹¹

Anti-immigration policies not only carry the implication of racism but also smack of white elitism. From recent emphases on urban environmental health, environmental justice and outreach campaigns, especially those directed at Hispanics,¹² environmental organizations recently have worked hard to shed their image as old, white, and elitist and gain support in non-

⁹ "Current Grantees," The Weeden Foundation, <http://www.weedenfdn.org/trial.html>.

¹⁰ Jill Garvey, "Community Members Protest Weeden Foundation in New York," *Imagine 2050*, 26 July 2010, <http://imagine2050.newcomm.org/2010/07/26/community-members-protest-weeden-foundation-in-new-york/>.

¹¹ Connie Mahan (Director of Grassroots Outreach, Audubon Society), in interview with the author, 1 June 2010.

¹² See for example, NRDC's Spanish webpage, "La onda verde de NRDC," which seeks to appeal to Hispanic Americans (<http://www.nrdc.org/laondaverde/>) and two of its 14 topics—health and environmental justice—which appeal especially to poorer, racial minorities. The Sierra Club also has EcoCentro: Sierra Club en Español (<http://sierraclub.org/ecocentro/>) and a goal of more diversity (<http://sierraclub.org/diversity/>).

white communities. Associating with the anti-immigration movement undermines these efforts. It alienates potential non-white supporters as well as white liberals who are wary of racist tendencies. To environmentalists focused on climate change, emphasizing the emissions increase that immigration causes sounds like an excuse to blame non-white immigrants for excessive American consumption. It echoes the North/South blame game of climate change treaty negotiations, which already constitutes a serious impediment to any consensus on sustainability.

DEMOGRAPHIC TRANSITION AND WOMEN'S EMPOWERMENT

The Demographic Transition Theory (DTT), which “lies at the centre of modern scientific demography,”¹³ suggests that population stabilization is an outgrowth of economic development, because, with time, economic development decreases birth rates. This theory implies that birth rates have dropped in the developed world and not in the developing world because countries are at different stages of the transition. With rising prosperity, the developed world will inevitably progress through to the final stage with decreased birth rates.

The women's empowerment movement encompasses a broad range of feminist and global health organizations that have united to improve women's health and economic and social position. Those supporting women's empowerment are predisposed to oppose population policies because of the history of coercion, especially of women. Betsy Hartmann argues that “Malthusianism has intimately and negatively affected the experience of millions of women with birth control. Married to population control, family planning has been divorced from the concern for women's health and well-being that inspired the first feminist crusaders for birth control.”¹⁴

¹³ See, for example, Kirk, “Demographic Transition Theory,” 361.

¹⁴ Hartmann, *Reproductive Rights*, 38.

At the same time, many women's empowerment organizations recognize the burdens of poverty and poor health that rapid population growth places on women.

DTT frees the women's empowerment movement from this dilemma because it renders population stabilization superfluous. It suggests that economic empowerment should be the policy priority because with economic empowerment will come a reduction in population growth. Economic empowerment calls for reproductive freedom for women, which translates into meeting the unmet need for contraceptives, but it avoids the need for explicit demographic targets. The connection between meeting individual demands for contraception and improving economic development, which eventually will stabilize population growth, is the most common argument in favor of supporting family planning services today.

Nicolas Kristof, a Pulitzer Prize-winning *New York Times* journalist and author, supports this view. He cites numerous studies on microfinance to suggest that, dollar for dollar, women spend money more productively—investing in businesses or spending on health and education—and thus contribute more to economic development than men, who spend on cigarettes, candy, and alcohol, which do not create long-term wealth.¹⁵ But women must be freed from the burdens of childbearing so as to have time and cash to devote to economic enterprise and healthcare. Thus, reducing population growth at the micro level is an important precondition to women's economic empowerment, which then drives national economic growth and, in turn, leads to reduced mortality and fertility rates.

Women's empowerment is a popular message. Praise for *Half the Sky*, a book on women's empowerment by Kristof and his wife, Sheryl WuDunn, has come from movie stars Angelina Jolie and George Clooney, news anchor Tom Brokaw, philanthropist Melinda Gates,

¹⁵ Nicholas Kristof and Sheryl WuDunn, *Half the Sky: Turning Oppression Into Opportunity for Women Worldwide* (New York: Alfred A. Knopf, 2009), 194-198.

and authors Greg Mortenson and Khaled Hosseini.¹⁶ Kristof has a *New York Times* blog, “On the Ground,” which includes numerous posts on women’s empowerment, and he writes frequent opinion pieces and articles for the newspaper and magazine.¹⁷ This wide range of celebrity support illustrates how women’s empowerment “has not only soared to the top of the development agenda, it has also caught the imagination of the philanthropic wing of big business, and is energetically promoted by myriad organizations.”¹⁸

Women’s empowerment has not only caught the attention of the media—it has changed the shape of international development assistance since 1994. The Cairo Conference Plan of Action and the Millennium Development Goals both ensure that the policy agenda promotes the provision of family planning to meet individual demand. The Cairo Plan of Action emphasized the importance of women’s empowerment as the linchpin to sustainable development. The Plan also acknowledged, although to little effect, the relationship between sustainable development, consumption, and population growth. The section on “Integrating population and development strategies” states:

[s]ustainable development implies, inter alia, long-term sustainability in production and consumption relating to all economic activities ... in order to optimize ecologically sound resource use and minimize waste. Macroeconomic and sectoral policies have, however, rarely given due attention to population considerations. Explicitly integrating population into economic and development strategies will both speed up the pace of sustainable development and poverty alleviation and contribute to the achievement of population objectives and an improved quality of life of the population.¹⁹

The “population considerations” that the Plan mentions are voluntary family planning services and women’s economic empowerment, not the demographic targets of the 1970s and 1980s. The

¹⁶ Kristof and WuDunn, *Half the Sky*, back cover of hardcopy, first edition and “Accolades,” *Half the Sky*, <http://www.halftheskymovement.org/accolades>.

¹⁷ This includes Nicholas Kristof and Sheryl WuDunn, “The Women’s Crusade,” *New York Times*, 17 August 2009, <https://www.nytimes.com/2009/08/23/magazine/23Women-t.html?ref=nicholasdkristof>.

¹⁸ Andrea Cornwall and Nana Anyidoho, “Introduction: Women’s Empowerment: Contentions and contestations,” *Development* 53, no. 2 (2010), 144, <http://www.palgrave-journals.com/development/journal/v53/n2/abs/dev201034a.html>.

¹⁹ *Report of the International Conference*, Chapter 3(A) § 3.3.

relationship between population and development, once the key principle of the UN Population Conferences, is reduced to this one paragraph amid the larger plan for women's empowerment.

The challenge that the women's empowerment and the population movement present to each other is not public disagreements about methods—right now both emphasize the provision of family planning services to meet the unmet need—but a competition for funding. Most population or women's empowerment organizations receive a large portion of their funding from USAID and UNFPA, which in turn receive their funding through Congressional appropriations.²⁰ Private foundations, individuals, and business contribute as well.

Since Cairo, these funders have shifted their resources primarily to women's empowerment and the associated global health movement. Its relatively bland message and palatable history make women's empowerment less controversial than population stabilization. At the same time, the global health component of the women's empowerment movement has shifted to focusing on HIV/AIDS prevention and treatment. HIV/AIDS has siphoned off a large portion of what used to be funding for population stabilization.²¹ For funders who trust DTT, funding women's empowerment and global health as well as population stabilization seems redundant, and the women's empowerment movement and global health offer more relevant targets.

CHRISTIANITY AND POPULATION: BE FRUITFUL AND MULTIPLY

Christian doctrine gives three reasons to oppose population stabilization: the Old Testament commands population increase; choosing who lives usurps God's role; and some church authorities forbid modern contraceptives and, most importantly, abortion. The ban on

²⁰ In 2009, Congress allocated \$55 million on its international family planning budget to UNFPA (which formed \$55 million its \$783.1 million total budget) and the rest of its \$648 million to USAID.

²¹ Bill Ryerson, in interview with Fran Stoddard on Profile, *Vermont Public Television*, 17 January 2011, <http://video.vpt.org/video/1750675385#>.

abortion is a top moral and political priority because conservative Christians believe that life starts at conception and abortion is a form of murder.

Christian opposition to stopping population growth derives from God's command in Genesis to Adam and Eve: "Be fruitful and increase in number; fill the earth and subdue it"²² or "Be fruitful, and multiply, and replenish the earth, and subdue it,"²³ depending on the translation. Under this reading, any measures to stabilize the population size, regardless of the method, go against God's will.

The second religious concern about population stabilization arises from the fear of "playing God" by choosing who will and will not exist. Jim Presswood, a staffer at NRDC responsible for Christian outreach, explained that, while there is no single Christian source for the idea that population policies usurp God's authority, "the idea of having country by country targets for the growth rates of population ... would be ... like playing God."²⁴ Only God should "make[] that decision on what the right number of people should be."²⁵ To conservative Christians, using contraceptives to limit reproduction undermines God's authority more than choosing when to have intercourse, because contraception prevents reproduction through sexual intercourse whose only religiously sanctioned purpose is reproduction.

The Christian community's multiple factions complicate its stance on modern contraceptives, abortion, and population stabilization. The community includes three principal groups: "mainline" Christians, Evangelical Christians, and Roman Catholics. Politically, these coalesce into mainstream Christians and conservative Christians, with the latter including an

²² Genesis 1:28 (New International Version).

²³ Genesis 1:28 (King James Version).

²⁴ The anxiety about playing God arises around genetically modified organisms (GMOs), but conservative Christians tend not to resist GMOs. Intervening in procreation is different from genetically modifying plants because "when you're talking about human life, that's a different type of issue. It's not so much that any intervention in God's creation is playing God, it's that it's something so fundamental as talking about human life," says Presswood.

²⁵ Jim Presswood, interview.

ever-evolving combination of Evangelicals and Catholics. “Mainstream” Christians as individuals and as a church tend to support contraceptives and abortion. The Anglican Church accepted the use of contraceptives by married couples in 1930, as did the American Federal Council of Churches in 1931. In 1994, the General Convention of the Episcopal Church affirmed its pro-choice stance.²⁶ The Episcopal, Presbyterian, and United Methodist Churches, as well as the Unitarian Universalist and United Church of Christ, are all members of the Religious Coalition for Reproductive Choice.²⁷

By contrast, Evangelical Protestants oppose both contraceptives and abortions. There is not one definitive source of Evangelical authority as there is of Catholics. But being strongly and vocally anti-abortion has been a foundational element of conservative Christian theology since the consolidation of “conservative Christians” as a political bloc, uniting disparate Evangelical sects. This unification happened during the 1980s, when influential leaders redefined evangelical Christians as those who “would fight worldly battles and who sought worldly power and influence in the name of ‘Christian values.’”²⁸ The politicalization of Christian values and alliance with the Catholic Church ensured that “a ‘pro-life gospel’ was invented, traditionalized, and became so dominant among [conservative Christians] that dissenters seemed to disappear.”²⁹ By the early 1980s, conservative Christians “had become formidable abortion foes, contributing much materially, organizationally, and rhetorically to

²⁶ General Convention, *Journal of the General Convention of ... The Episcopal Church, Indianapolis, 1994* (New York: General Convention, 1995), 323-325, http://www.episcopalarchives.org/cgi-bin/acts/acts_resolution-complete.pl?resolution=1994-A054. Although admitting that abortion has a “tragic dimension,” the Convention expressed “its unequivocal opposition to any legislative, executive or judicial action ... that abridges the right of a woman to reach an informed decision about the termination of a pregnancy or that would limit the access of a woman to safe means of acting on her decision.”

²⁷ “Membership Organizations,” Religious Coalition for Reproductive Choice, <http://rcrc.org/about/members.cfm>.

²⁸ Susan Friend Harding, *The Book of Jerry Falwell: Fundamentalist Language and Politics* (Princeton, NJ: Princeton University Press, 2000), 10.

²⁹ Harding, *The Book of Jerry Falwell*, 191.

what had become known as the pro-life movement.”³⁰

The Catholic Church explicitly forbids modern contraceptives and abortion, according to the teachings of Pope Paul VI and subsequent popes. In light of the humanitarian concerns about overpopulation and the Second Vatican’s command that the Church better integrate science into its teachings, the Vatican considered changing its position on modern contraceptive use in the 1960s. Pope Paul VI turned to the commission on the Study of Problems of Population, Family and Birth, filled with prominent and high-ranking Catholics, scientists and laymen, to analyze whether the birth control pill and population growth should inspire the church to change its position. The Commission voted 70 to 14 in favor of relaxing the Church’s stance on contraceptives.³¹

However, in preparing the papal encyclical *Humanae Vitae*, the Church’s definitive doctrinal position on birth control, Pope Paul VI relied heavily on three deeply conservative prelates who emphasized that changing the Church’s stance on contraceptives would undermine papal infallibility—“the doctrine that the pope, acting as supreme teacher and under certain conditions, cannot err when he teaches in matters of faith or morals.”³² At this decisive point, Pope Paul VI chose to favor papal infallibility and existing Church hierarchy over responsiveness to scientific and layman concerns. Pope Paul VI took the conservative prelates’ advice and stated in the *Humanae Vitae* in 1968 that

the direct interruption of the generative process already begun and, above all, all direct abortion, even for therapeutic reasons, are to be absolutely excluded as lawful means of regulating the number of children. Equally to be condemned ... is direct sterilization,

³⁰ Harding, *The Book of Jerry Falwell*, 189.

³¹ “The Pope and Birth Control: A Crisis in Catholic Authority,” *TIME Magazine*, 9 August 1968, <http://www.time.com/time/magazine/article/0,9171,902263-1,00.html> and Frances Kissling, “Close Your Eyes and Think of Rome,” *Mother Jones* 35, no. 5 (May/June 2010): 44-45, <http://motherjones.com/politics/2010/05/catholic-church-vatican-birth-control>.

³² “Papal infallibility,” *Encyclopædia Britannica*, *Encyclopædia Britannica Online*, 2011, <http://www.britannica.com.ezp-prod1.hul.harvard.edu/EBchecked/topic/441822/papal-infallibility>.

whether of the man or of the woman, whether permanent or temporary. Similarly excluded is any action which either before, at the moment of, or after sexual intercourse, is specifically intended to prevent procreation—whether as an end or as a means.³³

This letter followed earlier teachings in affirming that the only acceptable method of family planning was the rhythm method, in which couples have intercourse only when the woman is temporarily infertile due to the stage of her menstrual cycle.³⁴ The justification echoes the worry about playing God:

unless we are willing that the responsibility of procreating life should be left to the arbitrary decision of men, we must accept that there are certain limits, beyond which it is wrong to go, to the power of man over his own body and its natural functions—limits, let it be said, which no one, whether as a private individual or as a public authority, can lawfully exceed.³⁵

The encyclical acknowledged the concern about overpopulation, writing that “there is a rapid increase in population which has made many fear that world population is going to grow faster than available resources, with the consequence that many families and developing countries would be faced with greater hardships.”³⁶ But instead of using this as justification for a change in Catholic doctrine, Pope Paul VI suggested that “[i]t is supremely desirable ... that medical science should by the study of natural rhythms succeed in determining a sufficiently secure basis for the chaste limitation of offspring.”³⁷

The *Humanae Vitae* outraged much of the clergy, the laity, and the general public.³⁸ The affirmation of a ban on abortions was not controversial, but the ban on contraceptives was. Many Catholic women decided to use modern birth control in spite of the encyclical. A 1973 article in *Science* concluded that it is

³³ Paul VI, *Humanae Vitae*, Encyclical Letter on the Regulation of Birth, Vatican website, 25 July 1968, sec. 14, http://www.vatican.va/holy_father/paul_vi/encyclicals/documents/hf_p-vi_enc_25071968_humanae-vitae_en.html.

³⁴ Paul VI, *Humanae Vitae*, sec. 16.

³⁵ Paul VI, *Humanae Vitae*, sec. 17.

³⁶ Paul VI, *Humanae Vitae*, sec. 2.

³⁷ Paul VI, *Humanae Vitae*, sec. 24.

³⁸ “The Pope and Birth Control,” *TIME Magazine*.

abundantly clear that U.S. Catholics have rejected the 1968 papal encyclical's statement on birth control and that there exists a wide gulf between the behavior of most Catholic women, on the one hand, and the position of the more conservative clergy and the official stand of the Church itself, on the other.³⁹

Today, American Catholic women have similar patterns of contraceptive use—in frequency and type—to American non-Catholics.⁴⁰

Nevertheless, the Church's ban on contraceptives and abortion has a tremendous effect on public policy. Internationally, the Catholic Church has shaped domestic policy of Catholic countries, while in the United States, conservative Christians, including Evangelicals and Catholics, are politically powerful. Conservative Christians have used their political clout to limit abortion and abortion funding. The Helms Amendment, passed in 1973, stated that “[n]o foreign assistance funds may be used to pay for the performance of abortion as a method of family planning.”⁴¹ The Amendment forbids any governmental money supporting abortions, but it allows USAID or another agency to fund organizations that provide abortions as long as the abortions are funded separately.

Conservative Christians rejected this law as too soft on abortion, and in 1984, before the UN International Conference on Population, influenced President Ronald Reagan to close the loophole.⁴² The resulting Mexico City Policy requires “foreign nongovernmental organizations to certify that they will not perform or actively promote abortion as a method of family planning

³⁹ Charles F. Westoff and Larry Bumpass, “The Revolution in Birth Control Practices of U.S. Roman Catholics,” *Science* 179, no. 4068 (5 January 1973), <http://www.sciencemag.org/content/179/4068/41.abstract>.

⁴⁰ Jennifer Ohlendorf and Richard Fehring, “The Influence of Religiosity on Contraceptive Use among Roman Catholic Women in the United States,” *Linacre Quarterly* 74, no. 2 (May 2007), 140, <http://lq.cathmed.metapress.com/content/b94v014u0417p2h2/>.

⁴¹ “USAID’s Family Planning Guiding Principles and U.S. Legislative and Policy Requirements,” USAID, 2 June 2009, http://www.usaid.gov/our_work/global_health/pop/restrictions.html.

⁴² President Reagan’s stance on population growth was strongly colored by Christian doctrine in more ways than one. In 1986, the *ZPG Reporter* announced the launching of a campaign for population growth, in the form of Julian Simon’s new Committee on Population and Economy, formed as an advisory committee to the Reagan administration. The Committee acknowledged its Christian influence, stating that it believed in the injunction “be fruitful and multiply.” “Birth-Dearth Myth Makes a Comeback: Advocates of Unlimited Population Growth Launch High-Profile Campaign,” *ZPG National Reporter* 18, no. 1 (March-April 1986), 1.

using funds generated from any source as a condition for receiving USAID family planning assistance.”⁴³ The Mexico City Policy is often called the “Global Gag Rule” because it forbids organizations not just from performing abortions with USAID funds, but also from mentioning them as an element of family planning. It eliminates funding from any organization that performs abortions, regardless of how those abortions are financed. Each Democratic president since President Reagan has repealed the policy, and each Republican has reinstated it.

Views on abortion break down by political party and religious affiliation, as the history of the Mexico City Policy suggests. According to a 2004-2005 Gallup poll, 59% of Christians who attend church weekly or nearly weekly think that abortion should be illegal in all circumstances, while 54% of Christians seldom or never who attend church think abortion should be legal under any circumstances.⁴⁴ This corresponds to party affiliation: 51% of Republicans attend Christian religious services weekly or nearly weekly, while only 37% of Democrats do,⁴⁵ and 27% of Republicans think that abortion should be illegal in all circumstances, while only 14% of Democrats think so.⁴⁶

These two policies have had disproportionate influence on the population movement in the United States because they limit funding for population policies. They demonstrate the conservative Christian determination to oppose abortion at any cost, and tend to view any international family planning program not strictly limited by those two laws as a “Trojan horse

⁴³ “USAID’s Family Planning Guiding Principles,” USAID.

⁴⁴ Frank Newport and Lydia Saad, “Religion, Politics Inform Americans’ Views on Abortion,” *Gallup News Service*, 3 April 2006: Table: “Christians’ Abortion Views According to Church Attendance,” <http://www.gallup.com/poll/22222/Religion-Politics-Inform-Americans-Views-Abortion.aspx>.

⁴⁵ Newport and Saad, “Religion, Politics Inform Americans’ Views.”

⁴⁶ Newport and Saad, “Religion, Politics Inform Americans’ Views,” Table: “Abortion Views by Party ID.” Additionally, when asked in 2007 what the most important issues in choosing which a presidential candidate were, 3% of registered voters said abortion, while only 1% said environmental issues. Jeffrey Jones, “Majority of Americans Pleased with Presidential Field,” *Gallup Poll*, 5 November 2007, <http://www.gallup.com/poll/102547/Majority-Americans-Pleased-Presidential-Field.aspx>.

for abortion.”⁴⁷ The fear is that the provision of family planning services, even excluding abortion or abortion-related services, could somehow slide into providing or encouraging abortions, especially with the reintroduction of environmental protection as a motivation for population stabilization.

It is unlikely that environmental activists would alienate substantial conservative Christian support by supporting curbs on population growth. Conservative Christians are already lukewarm about or outright opponents of mitigating climate change, tending instead to deny the existence of anthropogenic climate change, believe that God will provide, or be generally pro-business and anti-liberal. While many environmental activists believe that conservative Christians increasingly support the environmental cause, there has in fact been little progress. There are numerous alliances between environmental non-profits and progressive Christian organizations, but only one significant collaboration with conservative Christians.⁴⁸ Thus, an environmental alliance on population stabilization would have little to lose regarding partnerships with conservative Christians. More likely, an explicit alliance between population and environmental organizations would intensify existing conservative Christian opposition to environmentalism, making preventing population/environment policies a top priority.⁴⁹ Such a collaboration could also jeopardize support for environmentalism from progressive Christian allies.

⁴⁷ Jim Presswood, interview.

⁴⁸ The one alliance was the National Wildlife Foundation’s work with the Christian Coalition. The others have all been with progressive Christian groups. The U.S. Conference of Catholic Bishops (USCCB) has supported the environmental movement for a while, but since they take a progressive stance on a number of issues, they are not considered a conservative Christian organization. The Evangelical Climate Initiative included a few conservative Christian leaders, but no organizations, and actually encouraged a number of other conservative Christian leaders to harden their stance against the existence of climate change. The Evangelical Environmental Network is a progressive environmental group, which includes no conservative Evangelicals, as is the National Religious Partnership for the Environment.

⁴⁹ Presswood’s perception is that this is somewhat unlikely because the conservative Christian community already considers it a “fact” that the environmental and population movement are one. Jim Presswood, interview.

GROWTH PROPONENTS

Limiting population growth has three consequences that economic growth proponents oppose: a rise in population aging, with associated costs; a reduction in inventiveness; and the implied challenge to growth economics. All these consequences decrease national economic productivity as measured in conventional terms and reduce the potential for private profit in most industries, thus provoking possible resistance from capitalists, politicians, and many wealthy donors (especially those still active in business).

Population Aging

In contrast to theories blaming population growth for slow economic development, the recent fear about population aging has put population growth in a more positive economic light. Population aging is defined as an increase in the proportion of elderly people—people over 64 years old—in the population or an increase in the average age of the population.⁵⁰ Population aging occurs in two ways. First, if mortality decreases, life expectancy increases and the years spent as an elderly person rise. Second, if birth rates decline, the number of young people drops, and the ratio of old to young rises.⁵¹ Together, these phenomena yield a world aging at “an unprecedented rate.”⁵² The developed world already has substantial population aging and in the next forty years will age increasingly quickly.⁵³ The developing world will age slowly until

⁵⁰ National Research Council, “Our Aging World” in *Preparing for an Aging World: The Case for Cross-National Research*, Committee on Population and Committee on National Statistics, Division of Behavioral and Social Sciences and Education (Washington DC: National Academy Press, 2000), 30.

⁵¹ National Research Council, “Our Aging World,” 30.

⁵² Victoria Velkoff and Kevin Kinsella, “An Aging World: 2001,” *International Population Reports*, U.S. Department of Health and Human Services and U.S. Department of Commerce, (November 2001), 1 and Peter G. Peterson, *Gray Dawn: How the Coming Age Wave Will Transform America—and the World* (New York: Times Book, 1999), 3. The word “unprecedented” is a favorite term to use to describe population aging, judging from its frequent use.

⁵³ A. Haupt and T. Kane, *Population Handbook*, 5th ed. (Washington, DC: Population Reference Bureau, 2004), 5.

around 2050, and then age rapidly.⁵⁴

Population aging implies success: societies have “the luxury of aging” because improved healthcare allows people to live longer, often productive, lives.⁵⁵ It may harm societies, though, by increasing the dependency ratio. The dependency ratio is the proportion of people of “dependent” ages—under 15 and over 64—to those in economically productive ages—between 15 and 64 years. The old-age dependency ratio is the ratio of people over age 64 to those between 15 and 64. The dependency ratio is often used as an indicator of the economic burden the productive part of the population must carry.⁵⁶ Thus, economists and demographers predict that increasing the dependency ratio, especially the old-age dependency ratio, will pose policy challenges. Common examples are the additional spending necessary on Social Security, health care, and living arrangements for the elderly.

The old-age dependency ratio and narrow definition of productivity can overstate the problem with population aging. Just as not all people aged 15 to 64 are employed, so not all people over 65 are retired. Many continue to work, and others take care of grandchildren or make other unaccounted for contributions to productivity. Furthermore, governments can redesign programs, like Social Security or Medicare, jobs, and hospitals to reflect the changing demographics. But the change in economic organization that population aging necessitates, along with the Japanese and Italian examples of severe population aging and concomitant debt increase, scare many politicians, economists and businessmen.

Peter Peterson is a businessman, governmental advisor, and philanthropist worried about population aging and economic decline. He was the co-founder and Chairman of The

⁵⁴ Cohen, “Human Population: The Next Half Century,” *Science* 302, no. 5648 (14 November 2003): 1174, <http://www.sciencemag.org/content/302/5648/1172.short>.

⁵⁵ Velkoff and Kinsella, *An Aging World*, 1.

⁵⁶ Haupt and Kane, *Population Handbook*, 6.

Blackstone Group, a private investment bank, Chairman of the Institute for International Economics, Deputy Chairman of the Federal Reserve Bank of New York, and Chairman of the Council on Foreign Relations, as well as a Secretary of Commerce under President Richard Nixon.⁵⁷ He founded and chairs the Peter G. Peterson Foundation which has over \$1 billion in assets.⁵⁸ Until President Bill Clinton eliminated the federal deficit, Peterson focused on the problems created by a huge federal deficit. He now emphasizes the negative economic consequences of population aging.

In *Gray Dawn*, Peterson argues that population aging is the developed world's largest problem. He predicts that "the wrenching economic and social costs that will accompany this demographic transformation ... threaten to bankrupt even the greatest of powers, the United States included." This is because "the cost of global aging will be far beyond our means—even the collective means of all the world's wealthy nations."⁵⁹ Assuming that the elderly remain economically unproductive and that the costs of aging remain constant, Peterson calculates that developed nations will have to spend 9 to 16% of their GDP annually just to provide old-age benefits to their citizens over the next 30 years.⁶⁰ In an interesting twist, Peterson echoes Malthusian language, suggesting that the competition over resources that population aging creates will undermine social harmony: "how will young and old live happily together if they see themselves as competitors for scarce resources?"⁶¹ His answer, of course, is to employ more people to produce more resources.

⁵⁷ David Kusnet, "Geezer Nation," *New York Times Books*, 14 February 1999, <https://www.nytimes.com/books/99/02/14/reviews/990214.14kusnett.html> and Peter G. Peterson, "Gray Dawn: the Global Aging Crisis," *Foreign Affairs* 78, no. 1 (January—February 1999), <http://www.foreignaffairs.com/articles/54620/peter-g-peterson/gray-dawn-the-global-aging-crisis>.

⁵⁸ "About Us," Peter G. Peterson Foundation, <http://www.pgpf.org/About.aspx>.

⁵⁹ Peterson, *Gray Dawn*, 3-4.

⁶⁰ Peterson, *Gray Dawn*, 18. That does not include the decrease in GDP that could come about due to the aging population and thus decrease in average productivity.

⁶¹ Peterson, *Gray Dawn*, 18.

Phillip Longman, a Senior Research Fellow at the New America Foundation and author of *The Empty Cradle: How Falling Birthrates Threaten World Prosperity And What To Do About It*, raised the same concern about the economic consequences of population aging. He said that “if you wish for slower population growth, eventually you get population aging and eventually that gives you challenges of both stagnation and sclerosis.”⁶² In this mind, population aging is directly equated with economic stagnation.

One of Peterson’s six strategies—to “raise numerous and productive children”⁶³—illustrates the shortsighted logic of trying to avoid, rather than deal with, population aging. Peterson advocates population growth because

in the very long term, two simple variables—fertility and labor productivity—dominate all the others (even longevity). Higher fertility and more productivity mean a bigger economy. And nothing would do more to overcome the fiscal challenges of an aging society than a strategy that makes the economy grow faster decade after decade.⁶⁴

The solution to the scarcity of wealth and resources predicted in the future, Peterson suggests, is more growth that props up consumption and production at current levels. But continued strong growth cannot be the answer. Scientists may not be able to predict the earth’s exact carrying capacity, but limitless population growth on a finite earth is not possible. Moreover, DTT suggests that eventually, with economic development, birth rates will fall as women gain wider economic opportunity. This would lead to population stabilization and thus population aging at some point, regardless of whether pronatalist measures are adopted.

Peterson acknowledges that “[p]ronatalism may be a sensitive topic so long as overpopulation (and its associated environmental costs) is perceived to threaten the world,” but

⁶² Phillip Longman (Senior Research Fellow, New America Foundation), in interview with the author, 1 October 2010, Washington, DC.

⁶³ Peterson, *Gray Dawn*, 145.

⁶⁴ Peterson, *Gray Dawn*, 150.

he immediately suggests that low fertility is also a threat to most nations' "biological survival."⁶⁵ He does not take the threat of environmental damage due to overpopulation seriously. Environmentalists and others dubious about growth propose increasing the productivity of existing workers, both young and old, to smooth the effects of population aging. Peterson writes this off, claiming that governments have had too hard a time improving productivity in its younger workers.⁶⁶ Improving productivity can only be part of the solution. He hopes that "in time, the two halves of the pro-child strategy—expanding the quantity *and* quality of tomorrow's workforce—may merge into a single cause," but until then, birth rates are easier to change than productivity.⁶⁷

Besides being infeasible in the long run, Peterson's formula ignores the economic orthodoxy on population growth and economic development. When workers become more productive, they increase GDP and thus living standards. When workers become more numerous, they must each increase their contribution to total GDP proportionally more than they increase their own numbers for living standards to rise. Otherwise, the additional workers just create an additional economic burden which results in no net increase in living standards. Moreover, in practical terms, worker productivity usually depends on the technologies available to them and their education. Both of these are in short supply, so it is just as possible that productivity will decrease at least as fast as population increases.

How people act rather than how many there are determines their economic productivity or lack thereof. The "economic burden imposed by elderly people will depend on their health, on the economic institutions available to offer them work, and on the social institutions on hand

⁶⁵ Peterson, *Gray Dawn*, 146-147.

⁶⁶ Peterson, *Grey Dawn*, 148.

⁶⁷ Peterson, *Gray Dawn*, 150. The argument that birth rates are easy to change goes against the logic underlying the preference for the Green Revolution over population control and the women's empowerment movement over family planning, as well as substantial experience showing that birth rates are not easy to change.

to support their care.”⁶⁸ This means that, based on population forecasts that relatively accurately predict population aging,⁶⁹ governments can reduce the economic burden of the elderly by creating medical, economic, and social institutions that cater to them.⁷⁰

Declining Inventiveness

Growth proponents also fear that birth rate stabilization or decline may drain the inventive spark from the economy. Julian Simon, the best-known proponent of this “revisionist” view (contrasted with the orthodox view that population growth hinders economic development), published *The Ultimate Resource* in 1981 arguing against Malthusians that Earth would not run out of resources. He argued that population growth renews natural resources because young people are “the ultimate resource.” That is, as population growth pressures the supply of resources, the increase in the resources’ price motivates inventors to engineer solutions to expand the economy beyond apparent limits. In addition to encouraging innovation, population growth increases the likelihood that creative geniuses needed are born, because the more people, the better the odds of more geniuses. Julian Simon supported the revisionists’ claim that “population growth does *not* hinder economic development or reduce the standard of living.”⁷¹

Advocates of population growth today still emphasize these connections. In a *Foreign Affairs* article, Longman explains that

[p]opulation growth is the mother of necessity. Without it, why bother to innovate? An aging society may have an urgent need to gain more output from each remaining worker, but without growing markets, individual firms have little incentive to learn how to do more with less—and with a dwindling supply of human capital, they have fewer ideas to

⁶⁸ Cohen, “Human Population Grows Up,” 50.

⁶⁹ George Myers, “Demography of Aging” in *Handbook of Aging and Social Sciences* edited by Robert Binstock and Linda George, 3rd ed. (New York: Academic Press, 1990), 27.

⁷⁰ With accurate population aging predictions, governments can “act in time” to smooth population aging. Hospitals could increase their old-age capacity during routine renovations, reducing health care costs for the elderly. Employers could stagger work hours and retirement ages to prolong people’s productive years. While these changes would take some capital, with sufficient time they could be incorporated into normal adjustments quite efficiently.

⁷¹ Julian Simon, *The Ultimate Resource 2: Revised Edition* (Princeton, NJ: Princeton University Press, 1996), xxxi.

draw on.⁷²

Longman focuses on the market demand for ingenuity in new products, but his conclusion is similar to Simon's: more people yield more ideas, including how to augment finite natural resources.

A Steady State Economy

Rather than looking for ways around population stabilization and aging, some embrace the economic reform population stabilization implies. Chapter 3 established the importance of considering both population stabilization and consumption reductions in talking about sustainability. True sustainability, which does not exhaust resources beyond current levels, requires zero population growth and elimination of consumption that equals waste: in short, it requires no material growth. There are numerous names for an economy based on principles of sustainability rather than growth: a steady state economy, limits to growth, uneconomic growth, degrowth, and ecological economics. But whatever the precise vision, a no-growth economy would differ immensely from the current American economy.

A no-growth economy requires the equalization of production and reusable by-products and waste, a more equitable distribution of fewer resources, and a standard of living measured by a value other than GDP. Roger Martin emphasized the potential for progress in a no-growth economy, stating that “no physical thing can grow indefinitely on a physically finite planet... but non-physical things can grow, like quality of life. ... There's very much you can do to increase the quality of your life forever.”⁷³ Increasing health and community, reducing the resources necessary for a satisfied life, designing common space and public goods to serve common benefit, and valuing the natural world for its productiveness and beauty all decouple increasing

⁷² Phillip Longman, “The Global Baby Bust,” *Foreign Affairs* 83, no. 3 (May—June 2004): 74.

⁷³ Roger Martin (Chair of Trustees, Optimum Population Trust), in interview with the author, 29 June 2010.

human happiness from economic growth.

The Center for the Advancement of the Steady State Economy (CASSE) supports the implementation of a steady state economy. CASSE proclaims that “[c]ontinuous economic growth on a finite planet is wishful thinking” because the earth’s finitude will eventually impose limits on all kinds of growth. The Center aims “to advance the steady state economy, with stabilized population and consumption, as a policy goal” because it “provides a hopeful way to achieve sustainability and equity in an increasingly constrained world.”⁷⁴ The Center’s definition of a “steady state economy” comes from Herman Daly’s definition in his 1973 book, *Toward a Steady State Economy*: an economy with “stable or mildly fluctuating levels in population and consumption of energy and materials,” in which “[b]irth rates equal death rates, and production rates equal depreciation rates.”⁷⁵ CASSE lists specific policies and structures to aid a steady state economy, but it does not outline the concrete measures to encourage widespread adoption of its ideals.⁷⁶

Despite being an old idea, the concept of limits to growth is not readily accepted by economists, politicians, or the public. After decades of promoting a steady state economy, Herman Daly wrote that “pro-growth is overwhelmingly the default position.”⁷⁷ CASSE has 6,378 individual and 157 organization endorsements,⁷⁸ compared to the 30,000 members of

⁷⁴ “Mission,” Center for the Advancement of the Steady State Economy (CASSE), <http://steadystate.org/meet/mission/>.

⁷⁵ “Definition,” CASSE, <http://steadystate.org/discover/definition/>. It is not surprising that CASSE and Daly’s definitions of a steady state economy align: Daly is on the board of CASSE.

⁷⁶ Some economists have tried to model a steady state economy. Peter Victor, a professor at York University in Toronto, modeled a steady state economy with a four day workweek to create more jobs, higher taxes on the rich to support more public services for the poor, and a carbon tax to discourage fossil fuel use and earn the government money. Within decades in this model, unemployment hit 4% and the economy reached a steady state. Clive Thompson, “Nothing grows forever. Why do we keep pretending the economy will?” *Mother Jones* 35, no. 3 (May/June 2010), 48.

⁷⁷ Herman Daly, *Selections 2007; Ecological Economics and Sustainable Development: Selected Essays of Herman Daly*, Advances in Ecological Economics (Northampton, MA: Edward Elgar, 2007), 7.

⁷⁸ “Endorsements,” CASSE, <http://steadystate.org/>.

Population Connection, an organization with declining membership.⁷⁹ Harvard's library search engine, HOLLIS, has no entry for a "steady state economy," but instead labels Daly's book, *Towards a Steady State Economy*, as "stagnation (economics)." No-growth lacks institutional acceptance not because the idea of limits is irrational, but because the "challenge of limits to growth is to express these limits in economic terms, and institutionalize them in our decision-making."⁸⁰ The idea of a growth-based economy is so central to post-Cold War American and Western societies that it is hard to imagine or plan for any other type of economy.

Pro-Growth Politicians and Capitalists

Most potential or existing donors to the environmental movement have benefited from the capitalist economic system. To politicians, businessmen, and wealthy individuals, the message of the need for clean technology resonates more than the need for a no-growth economy with a stable population size.

Politicians oppose reorganizing the economy because economic growth is the core basis of their public support. Wealthy capitalists and major corporations carry substantial political and social clout. The discourse surrounding the recovery from the 2008 economic crisis illustrates how much economic growth influences politicians' popularity. A poll by the Pew Center showed that two of Americans' top priorities for 2010 were growing the economy and creating jobs, with 83% and 81% of Americans rating each as a top priority. Social Security ranked fourth and Medicare sixth. The environment was sixteenth with only 44% considering it a top priority and global warming was twenty-first with 28%.⁸¹ Political welfare depends on economic growth in large part because of the expectations of rising living standards and increasing GDP

⁷⁹ "Population Connection," Population Connection, <http://www.populationconnection.org/site/PageServer>.

⁸⁰ Herman Daly, "Limits to Growth," in *Selections* by Herman Daly, 10.

⁸¹ "Public's Priorities for 2010: Economy, Jobs, Terrorism," The Pew Center for the People & the Press, Survey Reports, 25 January 2010, Table: "Top Priorities for 2010," <http://people-press.org/report/584/policy-priorities-2010>.

that underlie many public benefit systems.

Instead of emphasizing economic stabilization, politicians and the businesses they fund tend to focus on green or clean technology, which decouples economic growth and greenhouse gas emissions. In an interview, a senior staffer of both the Energy and Commerce Committee and the House Select Committee on Climate and Energy led by Representative Edward Markey, a Democrat from Massachusetts, stated that in Washington DC, the population movement has “not been coordinated” with climate and energy policy. The staffer said, “it’s a base assumption that we have population growth as part of the problem, but not the whole problem because we believe that we can develop technologies that will allow us to help [developing countries] become developed without increasing emissions.” The goals of developing clean technology are both to reduce American emissions, which we can do “through energy efficiency and ... through clean technology and renewable energy,” and to “get ahead” of the developing world so that “as they develop, they use the cleaner technologies.” This speaker never mentioned reducing population growth or consumption. The only thing to reduce, in his opinion, was the carbon intensity of consumption.⁸²

Clean technology has the potential to reduce emissions dramatically, especially through technology transfer to the developing world, and it requires little sacrifice or adaptation from voting Americans. A political win-win, clean technology stimulates economic growth—jobs, exports, and huge profits—while reducing greenhouse gas emissions. Scientists and engineers design new energy systems, power companies build them, and the most direct consequence it has on Americans is perhaps a small increase in their electricity rate.⁸³ Thus, supporting clean

⁸² Staffer at Representative Ed Markey’s office, in interview with the author, 16 June 2010.

⁸³ In many instances, the same funds that are used to stimulate renewable energy are also used to scale up energy efficiency. Thus, even if the per unit rate increases, actual electricity bills may stay the same or go down if efficiency sufficiently reduces consumption.

technology is a much easier message to sell to voters than a mandate to turn down the heat, wear sweaters, drive at 55 miles per hour, and consider bearing fewer children.⁸⁴

Businessmen and capitalists also recoil against reducing population, consumption and economic growth, but their opposition stems from the feared loss of profits. Some businesses would benefit from strict environmental regulation, but few would profit from a contraction of the whole economy. Longman lays out the logic:

Population growth is a major source of economic growth: more people create more demand for the products capitalists sell, and more supply of the labor capitalists buy. Economists may be able to construct models of how economies could grow amid a shrinking population, but in the real world, it has never happened.⁸⁵

Dreading a shrinking economy, “some influential economists, business leaders and conservative government policy-makers downplay the importance of the population-environment connection in favour of market-based economics and scientific process as solutions.”⁸⁶ These solutions do not sufficiently address the problem of climate change, but they allow capitalists to profit, a state of affairs that politicians and NGOs are wary of interfering with.

A 2011 advertisement from Goldman Sachs on the back cover of *National Geographic* exemplifies the pro-growth foundation of clean energy. The text imposed on a picture of a forested hillside topped with a windmill reads: “when a renewable energy company came to us, we found investors to help them grow. Because investing in a clean energy future is not only good for the environment, it’s good for local businesses and communities. And for local

⁸⁴ It also avoids the controversy over the existence of anthropogenic climate change that has paralyzed Congress. In his 2011 State of the Union address, President Barack Obama emphasized the need for renewable energy without ever mentioning climate change. His justification was job-creation. Andrew Revkin, “Obama Ducks and Covers on Climate,” Dot Earth blog on *New York Times*, 26 January 2011, <http://dotearth.blogs.nytimes.com/2011/01/26/the-c-word-vanishes/?emc=eta1>.

⁸⁵ Longman, “The Global Baby Bust,” 69.

⁸⁶ Speidel et al., “Population policies,” 3059.

employees.”⁸⁷ This advertisement assumes that renewable energy will be able to separate economic growth from greenhouse gas emissions, while Goldman Sachs will continue to profit from the new source of growth.

There is little evidence to suggest that clean energy and energy efficiency alone are capable of reducing emissions sufficiently to avoid dangerous climate change. But even more problematically, economic growth in the current system is premised on increased production and consumption. Even if the production and consumption is less carbon-intensive than before, with an expanding population that is consuming more on an average per capita basis, the total emissions of that growing economy very likely will increase.

Wealthy individuals, some of whom support the environmental movement, tend to prefer clean energy to a no-growth economy. Their financial success has depended and will continue to depend on the growth of consumption. The founders of Walmart, the world’s largest discount megastore, are a good example. Sam and Helen Walton founded Walmart, which in 2010 was the world’s largest public corporation by revenue. Their ownership of Walmart has made them among the world’s richest people. They established the Walton Family Foundation, which donates to environmental causes, among others. It supports the Environmental Defense Fund, whose board includes Sam Rawlings Walton, the founders’ grandson.⁸⁸ Overall, the Waltons have contributed generously to the environmental movement. But at the same time their business has promoted the consumer culture that drives much environmental degradation and relies on high consumption for its profits. The money that they donate to environmental causes comes from the consumption of imported, cheap consumer goods with high embedded greenhouse gas emissions.

⁸⁷ Back cover of *National Geographic*, January 2011, American edition. More on the Goldman Sachs renewable energy advertisement is available at <http://www2.goldmansachs.com/our-firm/progress/energy/index.html>.

⁸⁸ “Board of Trustees,” Environmental Defense Fund, <http://www.edf.org/page.cfm?tagID=365>.

The paradox between contributing to environmental degradation and donating to environmental organizations extends to the personal lives of these donors as well. Many of the individuals who can afford to make substantial gifts to non-profit organizations have immense amounts of wealth. With this wealth, in most cases, comes high carbon consumption—frequent flying, private jets and yachts, and numerous large houses. Asking the super-wealthy to both give money and give up or even question their lavish lifestyle is a hard sell. Seeking money to preserve distant, pristine land without any mention of the donors' daily living habits is easier. Environmental organizations that support a steady-state economy, then, likely will have a harder time getting funding than those that emphasize clean technology or conservation.

The redistributive elements of a steady-state economy exacerbate this opposition. It is not especially attractive to politicians (largely because of the disproportionate political influence of the wealthy). The earth's finite resources can provide for existing humans, but only at a much lower consumption level than most Americans, especially elite Americans, enjoy. Of course, a world with severe climate change is also not a world most Americans are used to, but the consequences of climate change seem distant to elites.

Elites are not revolutionary: they have become powerful through their success in the established system and they can insulate themselves from the downturns of the current system (in this case, climate change) because of their success. They would gain little and risk losing a lot in a transition to a steady state economy with strict environmental regulations, and they have the resources to hinder that transition. And they are in far better positions to protect themselves against the changing climate's most extreme consequences.

THE WAY FORWARD

Immigration reform runs contrary to the environmentalism embraced by non-whites and

liberals. DTT suggests that women's empowerment is more important to fund than direct population stabilization measures. Population policy's pro-choice stance attracts the wrath of conservative Christians, who consider fighting abortion a top political priority. And a steady state economy and its redistributive implications reduce the possibilities for the type of economic growth that historically has sustained politicians, businessmen and wealthy individuals. These four impediments engage powerful political actors with substantial resources to silence discussions of population stabilization, sustainability, and any other radical policy.

No population policy will appease all these different actors with their varying agendas. Most obviously, the ideological opposition to the provision of contraceptives or to the concept of population stabilization cannot be reconciled with population policies that emphasize the provision of family planning services to reduce population growth, as most do. But there are some policy designs that may circumvent certain opposition, as the next chapter suggests. Technological optimism has ensured that the concept of limits has almost vanished from discussions of environmental sustainability as too pessimistic. But that optimism alone can no longer sustain serious considerations of sustainability. There are physical limits to growth regardless of the strength of the opposition to that idea. Minimizing the human cost of those limits requires acting on all elements of sustainability, including population growth, soon.

CHAPTER FIVE

POTENTIAL POLICY APPROACHES

THE MIDDLE PATH

A few principles and some guidance can be gleaned from past experience with and careful analysis of population policy. First, the nexus of population policy and reproductive rights requires that mandatory population policies be avoided. The history of coercive population control policies demonstrates the importance of this first principle. Second, policies must balance reproductive rights with the other human rights undermined by climate change and population growth. Third, sustainability implies the moral and practical importance of considering consumption rates as well as population growth. Lowering consumption questions growth-based economics, and as such opposes the economic orthodoxy embraced by growth proponents. Finally, liberals vetoing an immigration reform agenda, and demographers and activists emphasizing women's empowerment, conservative Christians campaigning against contraception and abortion, take positions contrary to those of the population movement. Successful population policies avoid moral pitfalls and navigate political opposition as best they can.

As the consequences of climate change grow more severe, the necessity of addressing all the factors in the $I=PAT$ formula becomes more obvious. Nonetheless, the moral and political flaws of coercive policies remain unacceptable. Eliminating inaction and coercive policies leaves the middle path for population policies which are not mandatory and yet are more likely to reduce population growth. Properly designed nudges and incentives follow this middle path.

NUDGES

Richard Thaler and Cass Sunstein, an economist and a legal scholar, make the case for “libertarian paternalism,” which they call “nudging.” A nudge is “any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives. ... [T]he intervention must be easy and cheap to avoid.”¹ Their theory derives from copious evidence that “seemingly small features of social situations can have massive effects on people’s behavior” and that “[c]hoice architecture, both good and bad, is pervasive and unavoidable, and it greatly affects our decisions.”² The approach is libertarian because it assumes that “in general, people should be free to do what they like—and to opt out of undesirable arrangements if they want.” It is paternalistic because it assumes that “it is legitimate for choice architects to try to influence people’s behavior in order to make their lives longer, healthier, and better.” Despite being directed by experts, though, the policies must “influence choices in a way that will make choosers better off, *as judged by themselves*.”³

Thaler and Sunstein justify the use of nudges, arguing that “[b]y properly deploying both incentives and nudges, we can improve our ability to improve people’s lives, and help solve many of society’s major problems. And we can do so while still insisting on everyone’s freedom to choose.”⁴ Thaler and Sunstein apply this approach to environmental protection and family law, and the United States government has applied it to nutrition,⁵ so it seems reasonable to explore it regarding population policy as well. Nudge-based population policies can avoid

¹ Richard Thaler and Cass Sunstein, *Nudge: Improving Decision About Health, Wealth, And Happiness* (New Haven, CT: Yale University Press, 2008), 6.

² Thaler and Sunstein, *Nudge*, 252.

³ Thaler and Sunstein, *Nudge*, 5.

⁴ Thaler and Sunstein, *Nudge*, 8. Thaler and Sunstein do not make the distinction between nudges and incentives that this paper does, so they tend to lump the two together.

⁵ The food nutrition labels mandated on many foods or the calorie counts mandated on menus in New York City can both be considered nudges, as the provision of the nutrition information is provided to help people choose food based partly on its nutritional value.

human rights abuses or limitations of freedom because they do not include laws that mandate certain action, only those that encourage it.

In the 1970s, ZPG emphasized actions similar to nudges (which were not yet articulated) through education. It sought to increase the social acceptability of lower birth rates by presenting images of smaller families. Its top priority in 1973 was to “encourage the acceptance of the child-free, one-child, and two-child families through the use of mass media and informal public education.”⁶ The *ZPG Reporter* ran a number of articles on only children, women delaying childbearing, and vasectomies to make these choices more normal in a pro-natalist culture.

A current example of nudging comes from the Population Media Center (PMC). The PMC uses soap operas to inspire families to have fewer children. It writes and produces soap operas featuring family planning that are televised in targeted areas.⁷ The organization’s website explains the method of its programming:

Characters may begin the series exhibiting the antithesis of the values being taught, but through interaction with other characters, twists and turns in the plot, and sometimes even outside intervention, come to see the value of the program’s underlying message. ... By transmitting values through the growth and development of characters, the Sabido Method manages to simultaneously attract large and faithful audiences and stimulate thoughtful discussions.⁸

At the end of the program, the PMC displays the names and contact information of the local clinics providing the services (family planning or health) relevant to that episode. In Brazil, where the PMC ran a program on family planning and Down syndrome, two-thirds of the women

⁶ “ZPG Priorities—1973,” *ZPG National Reporter* 5, no. 2 (March 1973), 2.

⁷ The organization relies heavily on “the Sabido Method,” which is “a methodology for designing and producing serialized dramas on radio and television that can win over audiences while imparting prosocial values.” “The Sabido Methodology – Background,” Population Media Center, <http://www.populationmedia.org/what/sabido-method/>.

⁸ “The Sabido Methodology – Background,” Population Media Center, <http://www.populationmedia.org/what/sabido-method/>.

who viewed the program responded that the program had influenced them to take steps to avoid unwanted pregnancies.⁹ A program in Mexico has a similarly positive effect on knowledge and interest in reproductive and sexual health.¹⁰

The PMC's projects illustrate the approach outlined in *Nudge* because its audiences are entirely voluntary, but they subtly encourage a particular form of action. More specifically, the programs encourage actions that some expert authority—medical, environmental, or cultural—deems best. The PMC is careful to work with local governmental ministries and non-governmental organizations in designing its programs so as to be most considerate of local norms and needs.

INCENTIVES

Advocates of nudges emphasize that they make it easier for people to do what they would choose to do anyway, if they had perfect information. Incentives, on the other hand, are systems of payments, subsidies, differentiated tax rates, and other awards that promote the action that another actor, often the government, encourages. They change the financial stakes of free choice.

Differentiated tax rates are a common incentive.¹¹ In *Buckley v. Valeo*, a case upholding limitations on federal campaign contributions, the Supreme Court reaffirmed Congress's broad power to tax, holding that the General Welfare Clause of the U.S. Constitution is "a grant of power, the scope of which is quite expansive, particularly in view of the enlargement of power

⁹ "Brazil – Results," Population Media Center, <http://www.populationmedia.org/where/brazil/brazil-results/>.

¹⁰ *Válvula de Escape* – Results," Population Media Center, <http://www.populationmedia.org/where/mexico/valvula-de-escape-results/>.

¹¹ The U.S. Constitution grants Congress the authority to "lay and collect taxes, duties, imposts, and excises to pay the debts and provide from the common defence [sic] of general welfare of the United States." Another clause clarifies that Congress can "make all laws which shall be necessary and proper for carrying into execution the foregoing powers," including the right to tax. U.S. Constitution, Article 1, Section 8.

by the Necessary and Proper Clause.”¹² The “common defence of the general welfare” directive in the Constitution is a broad enough mandate, especially given *Buckley*, to include taxes to protect against climate change.

In *Population Policy and the U.S. Constitution*, Larry Barnett questions whether the American government could implement a direct fertility tax, such as a surcharge on childbearing. He concludes that such a tax would “place a major burden directly on procreation and therefore [would] constitute a serious intrusion on the right of privacy.” Although he argues that such a law would not be unconstitutional if it could “satisfy the strict compelling interest standard,” Barnett suggests that a court probably would declare it unconstitutional.¹³ Justice Lewis Powell, however, states otherwise in his concurring opinion in *Cleveland Board of Education v. LaFleur*, a case about mandatory maternity leaves for public school teachers. Powell wrote:

certainly not every government policy that burdens childbearing violates the Constitution. Limitations on the welfare benefits a family may receive that do not take into account the size of the family illustrate this point. See *Dandridge v. Williams*, 397 U.S. 471 (1970). Undoubtedly Congress could, as another example, constitutionally seek to discourage excessive population growth by limiting tax deductions for dependents. That would represent an intentional governmental effort to ‘penalize’ childbearing.¹⁴

Powell’s view makes it plausible that economic incentives designed to reduce population growth are constitutional.

Even if legal, however, direct penalties on childbearing raise moral and practical problems. Morally, a child makes no decision to be born, so punishing her for existing is unfair. Practically, penalizing a child by reducing her opportunities undermines her development; this damages society as well as the child. Disciplining a mother so strictly that she is less able to care for her children is similarly abusive. The Chinese policy that only the first child, or first and

¹² *Buckley v. Valeo*, 424 U.S. 1 (1976) § 91.

¹³ Larry D. Barnett, *Population Policy and the U.S. Constitution* (Boston: Kluwer-Nijhoff Publishing, 1982), 136.

¹⁴ *Cleveland Board of Education v. LaFleur*, 414 U.S. 632 (1974) § 651-652.

second, receive free public schooling punishes the blameless additional children and leaves a large number of children outside of the educational system. Carefully designed incentives, though, may promote sound population policies so long as they are not punitive to children.

An additional challenge is identifying incentives that adequately consider the interplay between consumption and population growth as the main driver of climate change. The justification for the government's role in designing incentives (or eliminating disincentives) is to provide for the general welfare, which in this case is mitigating climate change. Incentives must take into account the difference between regions where population growth is the main contributor to climate change and where consumption is. Otherwise the policies will be ineffectual as well as unfair.

A possible incentive is a differentiated mortgage interest tax deduction, which allows tax deductions only for houses under a certain size. Such incentives are likely legal. In an article on no-growth ordinances,¹⁵ Tom Pierce cites the case of *Construction Industry Association of Sonoma County v. City of Petaluma* (1975), in which the construction association sued the city for the "Petaluma Plan," which would limit the number of building permits to 500 per year for five years. The opening of Highway 101 in 1969 tripled the demand for building permits from 300 in 1969 to 900 in 1971, and the city sought to limit development in order to provide sufficient low and middle-income housing during the growth spurt. The U.S. Court of Appeals for the Ninth Circuit upheld Petaluma's no-growth ordinance, acknowledging that growth at an "orderly and deliberate pace" was a legitimate goal.¹⁶ While not addressing population growth from reproduction, the incentive there indirectly discouraged population growth. It does not undermine the residents' freedom, though, because they remain free to have as many children as

¹⁵ Tom Pierce, "A Constitutionally Valid Justification for the Enactment of No-Growth Ordinances: Integrating Concepts of Population Stabilization and Sustainability," 19 *University of Hawaii Law Review* 93 (Spring 1997): 96.

¹⁶ *Construction Industry Association of Sonoma County v. City of Petaluma*, 522 F.2d 897 (1975) § 908-9.

they wish, fitting them into existing houses.

PUSHING TOO HARD: THE PITFALLS OF NUDGES AND INCENTIVES

Nudges and incentives can easily become shoves. Context determines whether shoving happens and how well nudges and incentives protect freedom of individual choice. The requirements vary slightly for nudges and incentives, but for both, recognizing the unequal power dynamic in any expression of state power across different income and education brackets is key.

For nudges to remain mere nudges, they must encourage choices that the individuals themselves choose based on individuals' expressed preferences, not hypothetical choice patterns. Economists and other nudge-proponents often overlook that preferences are only free in societies with political inclusion and feasible choices. How well people know the options other than the endorsed one, and whether they have a say in choosing which option is endorsed, shapes coercion:

[i]n evaluating the degree to which different means are coercively or manipulatively imposed ... an individual's socioeconomic status and access to information play an important role. Middle-class women in industrialized democracies who have access to, and are adequately informed about, a number of reproductive technologies are clearly less likely to find themselves coerced or manipulated than poorer women without such access or knowledge.¹⁷

The PMC's programs illustrate the importance of information and democratic procedures. At the end of the television shows, the PMC provides information about the local clinics relevant to the program, encouraging the viewers to visit those clinics. It is unlikely that there is more than one clinic in the regions of rural Brazil and Mexico that the PMC targets. Thus the services offered at those clinics probably sway their patrons' reproductive decisions more than a clinic in

¹⁷ Bok, "Population and Ethics," 15.

a wealthy neighborhood of Rio or Mexico City. Offering only contraceptives rather than a full range of prenatal care is not a nudge. Encouraging women who have expressed an interest in delaying childbearing to use contraceptives is a nudge, but influencing women who have never stated a preference to use contraceptives just because 215 million other women have expressed that preference is not a nudge.¹⁸ The social and political context across populations means that nudges may be optimal in some regions—namely those with comprehensive education, gender equity, and established democratic procedures including transparency, accountability, and public participation—but are more suspect and autocratic in others.

The context of incentives shapes their legitimacy as well. A reasonable monetary incentive in some areas may be so exorbitant as to be coercive in others. Moreover, the economic theory of incentives fails in certain instances. According to economic orthodoxy, measures that increase the cost of children will decrease the demand for them. The relationship between the cost of children and the supply of them has been demonstrated empirically in the developed world,¹⁹ where, on the margin, the economics of childbearing can sway decision making for those of substantial means. But for much of the world, the marginal economics are too abstract to influence childbearing.

The mortgage tax deduction incentive exemplifies the gulf between theory and reality in various economic circumstances. For high consuming Americans, the connection between house size and birth rate seems rational. For poor people in America and in the developing world, a mortgage interest tax reduction is irrelevant: renters, the homeless, and subsistence farmers do

¹⁸ Even though these women have never expressed an interest in contraception, they may indeed want it and just not have had an opportunity to express that desire. However, providing them with contraception in that case would still not count as a nudge because a nudge requires the expression of individual choice at some point. It may be a good policy, but it is not a nudge.

¹⁹ G.S. Becker, “An Economic Analysis of Fertility,” in *Demographic and Economic Change in Developed Countries*, NBER Conference Series 11 (Princeton, NJ: Princeton University Press, 1960).

not consider tax deductions in housing or reproductive decisions.

THREE CATEGORIES OF CONSUMPTION

A challenge in shaping effective nudges and incentives is that political boundary or geographical territory may not determine their relevance. Dividing people by national boundary and then extending nudges or incentives that are relevant to only a small segment of the population onto all nationals produces failed policy. Instead, one solution is to tailor policies according to consumption patterns. This entails the division of groups by environmental impact rather than geographical boundary, in order to tie policy affecting per capita environmental impact to the goal of reducing impact.

This categorization of people by consumption patterns is akin to a sales tax. Nonetheless, those in charge of population policy may be skeptical of consumption-based categories. Wealthy, democratic nations with high per capita GDP and the most advanced education tend to design and fund most international population policies. Within the United States, lobbyists and politicians mainly represent the wealthy and high-consuming, who thus have disproportionate influence on public policy. This means that the wealthy and high-consuming would be both the ones to choose whether or not to implement a consumption-based categorization and the ones who such a categorization would subject to the strictest reductions. This combination suggests that such a categorization may be difficult to implement. But a focus on individual or group carbon consumption as well as population growth could be the basis for more precise population policy because it provides a way to address population growth in environmental terms, while remaining within crucial moral boundaries.

The idea of dividing the population into consumption-based categories was articulated by Ramachandra Guha, a prominent Indian scholar and writer. He offers a way to “capture[] the

asymmetries in the patterns of consumption in an analytical framework,” by dividing Indian consumers into three classes:

omnivores, ecosystem people and ecological refugees. Omnivores have the capability to draw upon the natural resources of the whole of India to maintain their lifestyles. Ecosystem people, rely on resources in their vicinity. Ecological refugees are those ecosystem people who have been displaced from their homes and live in slums.²⁰

These three categories could be modified for American and global consumers.

In an earlier article, Guha and Madhav Gadgil, the foremost Indian ecologist of his generation, acknowledge that a framework dividing people based on the intensity of their resource consumption seems radical in the West, where environmentalism is marginalized as a feature of health and leisure. Lester Thurow, an economist and the former dean of MIT’s Sloan School of Management, marveled that “one is struck by the extent to which environmentalism is an interest of the upper middle class. Poor countries and poor individuals simply aren’t interested.”²¹ Similarly, Charles Moore, a British journalist and editor, quipped that “[g]reenness is the ultimate luxury of the consumer society.”²² Categorizing individuals according to their carbon impact would undermine Thurow and Moore’s characterization of environmentalism as an elitist movement, which requires little sacrifice from the wealthy, to one targeting all people proportionally and expecting greater change from those with higher per capita emissions.

While it may seem unlikely that an affluent society would redefine population and environmental policies to highlight carbon consumption, redefining societal categories to protect a “luxury,” climate change suggests why it might be possible. As Gadgil and Guha explain, in

²⁰ Ramachandra Guha, “How Much Should a Person Consume?,” *Vikalpa* 28, no. 2 (April – June 2003), 1, http://www.vikalpa.com/article/article_detail.php?aid=606. This is also the final chapter of Guha’s book, *How Much Should a Person Consume?: Environmentalism in India and the United States* (Berkeley, CA: University of California Press, 2006).

²¹ Lester Thurow, *The Zero Sum Society: Distribution and the Possibilities for Change* (New York: Basic Books, 1980), 104-105.

²² Charles Moore, “Foreword,” ix in *Britain in the Eighties* by Philip Marsden (London: Grafton Books, 1989). Gadgil and Guha mention this on page 153 of their article.

the developing world, environmentalism is not a luxury. There is a “sharper edge to environmental conflict in the Third World”²³ because

in the Indian case environmental degradation and the ensuing resource storages directly threaten survival and livelihood options. ... [E]nvironmentalism has its origins in conflicts between competing groups—typically peasants and industry—over productive resources. By contrast, environmental conflicts in the West have characteristically emerged out of threats to health and leisure options.²⁴

The threat to productive resources in the developing world has “prompted a more thoroughgoing critique both of consumerism and of uncontrolled economic development”²⁵ in the developed world as a whole and more particularly elites in the developing world. This critique, though, can no longer remain only in the developing world. Climate change threatens to cause the type of conflicts over resources and environmental health in the United States and the West that already occur in India. In the face of climate change, public policy methods of Third World environmentalism may become relevant worldwide.

I=PAT TO I=PC_C

I=PAT conceptualizes environmental impact by linking population growth, affluence, and technology. However, I=PAT led to an illogical focus on technology (T) at the expense of population and affluence/consumption. A new formula would reframe environmental impact to emphasize the critical role of population and consumption.²⁶

The new formula could be $I=PC_C$, where environmental impact (I) equals population (P) times consumption of carbon (C_C). Carbon consumption could be measured in annual per capita

²³ Madhav Gadgil and Ramachandra Guha, “Ecological Conflicts and the Environmental Movement in India,” *Development and Change* 25, no. 1 (1994): 133.

²⁴ Gadgil and Guha, “Ecological Conflicts,” 132.

²⁵ Gadgil and Guha, “Ecological Conflicts,” 133.

²⁶ In addition, I=PAT has become less relevant today because of the focus on climate change. In 1971 when I=PAT was written, climate change was not the main environmental problem. Now it is. Thus, the focus of $I=PC_C$ exclusively on carbon dioxide emissions makes sense today as it would not have in the 1970s.

tons of emissions and population in numbers of people, resulting in an environmental impact for a region, group, or category of consumers measured in annual carbon emissions. The population growth rate would influence future predictions of environmental impact. This formula implicitly includes technology because it is technology, efficient or inefficient, that determines the carbon intensity of consumption. But it avoids the reduction of $I=PAT$ to $I=T$. It replaces the poorly defined term “affluence” (A) with a clearly defined variable: consumption of carbon (C_C). And, most importantly, it emphasizes the connections between population, consumption and environmental impact.

IMPLEMENTING POLICY THROUGH $I=PC_C$

Dividing people into three consumption categories would allow policymakers to refine population policy by considering impact more directly. The formula could compare the carbon consumption times population with the Earth’s capacity to reabsorb carbon. This would be motivated by the sustainability goal that humans emit only as much carbon as can be reabsorbed into the land without causing present or future environmental damage.

The Earth’s forests and soils form the only non-harmful natural carbon sinks. They absorb about 4.7 ± 1.2 billion metric tons of carbon per year.²⁷ Most human emissions are

²⁷ C. Le Quéré, M. R. Raupach, J. G. Canadell, and G. Marland, “Trends in the Sources and Sinks of Carbon Dioxide,” *Nature Geoscience* 2 (2009): 833, <http://www.nature.com/ngeo/journal/v2/n12/abs/ngeo689.html>. The measurements in this study are in petagrams, which equals a gigaton, which is a billion metric tons. For ease, I have converted it to metric tons of carbon. The annual forests and soils carbon sink varies annually based on land use changes, but the assumption for this thesis is an annual carbon sink of 4.7 billion tons per year. The oceans also absorb about 2.3 ± 0.4 Pg Carbon per year, but when they do so, they acidify. This destroys the natural feeding chain in the ocean and is very environmentally destructive. Furthermore, since the timeframe of ocean carbon uptake is in the 10,000-year timeframe, it is hard to tell the full effects of carbon uptake on ocean acidification. Thus, this thesis does not include it as a low impact carbon sink. However, this is a controversial assumption, especially since the oceans now absorb about 50% of the carbon emissions. Similarly, the atmosphere absorbs 3.9 ± 0.1 Pg C per year, but because that absorption is what causes increasing temperatures and climate change, that also is not included as a low impact carbon sink. These distinctions are not absolute, which points to the inherent instability of these natural systems and the potential to overwhelm them. But, the division of people by

measured in carbon dioxide, so converting the average of 4.7 billion metric tons of carbon into carbon dioxide emissions, low impact sinks can absorb 17.25 billion metric tons of carbon dioxide per year.²⁸ The world population is projected to reach 7 billion people in mid-2011. This means that if humans live sustainably, emitting only as much carbon dioxide as could be reabsorbed without harm, and equitably, dividing the total allotment equally between people, each person could emit 2.46 metric tons of carbon dioxide per year. This would be around the level of average per capita emissions in Cuba or Tunisia. The average American now consumes 20 tons per year. If the world reaches the low 2050 population projection of 9 billion, the equitable per capita carbon dioxide emissions would be 1.92 tons per year, while if the world population hits the high projection of 10.5 billion, per capita emissions would be 1.64 tons.

This per capita allowance—about 2.5 tons of carbon dioxide per year—might provide a basis to distinguish three consumption categories, following Gadgil and Guha’s framework. “High carbon consumers” would be those who emit more than 2.5 tons of carbon dioxide annually; “medium carbon consumers” would be those who emit around 2.5 tons, give or take .5 tons; and “low carbon consumers” would be those who emit less than 2.5 tons. Environmental impact could then be measured separately in each of these groups, based on the balance of variables in the $I=PC_C$ formula. High carbon consumers, as a group, would have the highest environmental impact because of their exorbitant consumption of carbon despite their relatively small, stabilized population size. Medium carbon consumers would be those with a sustainable environmental impact, with the population growth fixed at zero and consumption stabilized at around 2.5 tons carbon dioxide per year. The majority of the environmental impact of low

consumption category remains valid, even though the numbers used to determine each person’s fair allocation of carbon dioxide emissions can change.

²⁸ This number is derived by multiplying the carbon sink of 4.7 billion by 3.67 (the conversion rate between carbon and carbon dioxide based on their relative molecular weights (44/12)). Carbon, rather than carbon dioxide, sinks are measured because carbon is natural absorbed.

carbon consumers would be from the high population of the group and their increasing numbers, despite the very low per capita carbon consumption.

This division allows policy to target environmental impact both proportionally across emitting categories and accurately within each group. It has practical policy implications as well because the three consumption categories also tend to correspond to access to education, political representation, and individual reproductive freedom. For example, low carbon consumers tend to have little education, low political influence, and little realistic choice about how to control fertility. Thus, these divisions would allow policymakers to tailor environmental policies to the level of environmental impact, and the social and political context in which the policies are implemented. They provide a way to conceive of population growth's environmental impact more clearly and thus devise population stabilization strategies that avoid trouble, both morally and politically.

Public policy priorities differ for each of the three proposed population categories. The availability of contraceptives to meet the unmet need for family planning services would apply across the board. Beyond that, policies would diverge. Policies that target significant reductions in carbon consumption would be directed at high carbon emitters. These include measures like nudges and incentives that influence individual behavior towards absolute reductions in consumption as well as reduced population growth or size. Mortgage tax interest deductions allowed only for small houses, high taxes on high carbon goods, and increased prices of gas and oil would be the type of policy to reduce individual consumption. Emphasizing the obligation to consider environmental degradation in family size decisions would apply well to this group. There could even be individual consumption targets. A no-growth economy is less restrictive for those in this category because their living standards are already high.

Areas with greater numbers of high carbon consumers would be motivated to discover and apply the technologies and infrastructures that decouple consumption, especially energy consumption, from carbon emissions. Developing renewable energy technology, building and improving public transportation systems, and redesigning buildings to be more efficient would reduce high consumers' carbon emissions, as well as lead the development of technologies that could be transferred to other regions. This would harness the enthusiasm of technology optimists, by creating the potential for growth without increased emissions.

Policies for the second group would aim to maintain the existing balance of population stabilization and to promote relatively low consumption through the decoupling of consumption and affluence. This would ensure that this group lives sustainably even if affluence increases going forward. Only a decrease in population size would justify an increase in the carbon consumption of this group. Otherwise, the goal would be to stabilize the population in this group, except for moving people from other categories into this one.

The policy priority for low carbon consumers would be population stabilization. This would include an emphasis on meeting the unmet need for contraceptives and removing the American impediments such programs, including the Mexico City Policy, on implementing the full range of women's empowerment goals to improve women's economic status and decrease child mortality, and on supporting the LDCs' national adaptation plans, with an emphasis on population stabilization especially in vulnerable areas. Wealthy nations' support of the population stabilization in the LDCs' national adaptation plans is a key policy tool for reducing the environmental impact of the low carbon consumers category because it provides an effective and morally acceptable framework for policy. The plans ensure that the USAID and UNFPA will not be the draconian outsiders forcing population plans on the Third World, as they have in

the past, but instead as supporters of the countries' own plans for resilience and adaptation.

The categorization of the population by consumption pattern would allow population policies to improve dramatically environmental sustainability without undermining individual rights. It acknowledges that policies crucial to one category—incentives and nudges or women's empowerment—may be ineffective at reducing environmental impact in another. It also avoids an unfair allocation of blame to either variable, instead tying the type and severity of population and consumption policy to the environmental impact and political inclusion of the targeted group.

The division of the world's population into the three categories of carbon consumption may not be politically feasible or practical. It might appear radical, gain substantial political opposition, and require a major shift in international governance. It aims for true sustainability, which is neither a mundane nor an easy goal. But the importance of these divisions is that they allow environmentalists and policymakers to reintegrate population growth into discussions about sustainability and help reduce environmental impact effectively by targeting the culpable actors and behaviors. Armed with the $I=PC_C$ formula and the categorization of people based on their environmental impact, policymakers may target the most critical parts of environmental impact, not only the parts that require little sacrifice. Such policies would truly protect human rights, individual freedom, and the planet, now and for (smaller) future generations.

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