Title
Empower Women, Save the Planet? Science, Strategy, and Population-Environment Advocacy

Author
Sasser, Jade

Publication Date
2012

Peer reviewed|Thesis/dissertation

Empower Women, Save the Planet? Science, Strategy, and Population-Environment Advocacy

By

Jade Sasser

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Environmental Science, Policy & Management

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Nancy Lee Peluso, Chair
Professor Louise Fortmann
Professor Carolyn Finney
Professor Lawrence Cohen

Spring 2012

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Abstract

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This dissertation is about the problems of global population and women's fertility as constructed, circulated and contested among a network of American environmental actors. The first decade of the new millennium witnessed an upsurge in environmentalist attention to population trends, particularly in the context of widespread attention to climate change. Using ethnographic research conducted among a network of U.S. foreign aid donors, environmental, population and family planning NGO managers, and college youth activists, this dissertation asks the questions: What- and who- is driving the renewed focus on population growth as a driver of ecological crisis? What strategies are being used to drive a linked population-environment development agenda forward, and what effects do these strategies have on population science, policy, and political debates? I argue that, rather than reprise familiar neo-Malthusian arguments, these actors draw on scientific knowledge and social justice frameworks, to position population-environment advocacy in the realm of progressive politics. At the same time, population advocates increasingly enroll young activists as the newest cadre of international population advocates, through contradictory and contentious approaches to framings of race, gender and justice politics. This multi-sited project is highly interdisciplinary, drawing on conceptual approaches from the fields of political ecology, science and technology studies and medical anthropology to interrogate questions the uses of scientific knowledge production, political messaging, and racialized and gendered body politics in international population-environment advocacy.

In chapter 2, I explore the historical processes of articulation which have come together and fractured apart at particular historical conjunctural moments. It focuses on how the population 'problem' and its potential solutions have been constructed scientifically and politically over time, crystallizing in the 20th century as hegemonic paradigms within international development. Chapter 3 centers on the micropractices through which college youth are trained in population-environment messaging and other advocacy strategies, focused on the strategic use of social justice discourses, technology-based advocacy, and selective use of ecological and climate science data. In this chapter, I argue that these practices are constitutive of the process of making development actors from afar. Chapter 4 analyzes the changing role of racial politics in

population-environment advocacy over time, charting the ways race has moved from a zone of heated controversy to providing an opening for new representational strategies. In chapter 5, I explore the behind the scenes role of private donors whose creative financing of population projects manifests over time as a powerful form of advocacy. Chapter 6 focuses on recent developments in scientific knowledge linking population growth with climate change, arguing that the projections these data represent are productive of both novel forms of thinking about the future, as well as anticipatory interventions that help shape it. The conclusion explores the possible futures of population-environment advocacy, raising questions about the transformative potential of transnational youth organizing predicated on a radical rupture from the past.

Dedication

This dissertation is dedicated to two powerful women- my grandmother, Loretta Orme, and my mother, Janet Sasser- in gratitude for their brilliant examples and enduring legacies. And to Soraiya, in anticipation of a bold, bright future.

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List of Acronyms

Conference of Parties to the Kyoto Protocol	COP
Conference on Youth	COY
Environmental Justice	EJ
Environmental Non Governmental Organization	ENGO
International Conference on Population and Development	ICPD
Impacts= Population x Affluence x Technology	IPAT
Intergovernmental Panel on Climate Change	IPCC
Non Governmental Organization	NGO
Global Population Environment Program	GPEP
Population, Health, Environment	PHE
Reproductive Justice	RJ
Sexual and Reproductive Health	SRH
Sexual and Reproductive Health and Rights	SRHR
United Nations	UN
United Nations Conference on Environment & Development	UNCED
United Nations Population Fund	UNFPA
United States Agency for International Development	USAID
World Conservation Society	WCS

Acknowledgements

Many people have helped me on this journey, helping to shape my intellectual trajectory, providing scholarly and emotional support, and guiding me through the completion of one of the most unexpected accomplishments of my life.

This dissertation would not have been possible without the participation of the program managers, donors, and activists who were interviewed. I am particularly grateful to Laurie Mazur and Cassie Gardener, whose willingness to engage in ongoing dialogue and debate has broadened my thinking and taught me a lot about what it means to be fully committed to women's health and political activism. Special thanks are also due to Edith Eddy for providing books, articles and a wealth of historical knowledge on population politics.

Several fellowships and grants have also supported my work, making it possible to traverse multiple field sites on numerous occasions. I received a Berkeley Fellowship, as well as support from the Ford Foundation Minority Predissertation Fellowship Program, National Science Foundation Graduate Research Fellowship Program, and the UC Berkeley Center for Race and Gender Graduate Research Grant.

My academic committee has seen me through a constellation of shifting questions, perspectives and debates, and provided stellar guidance along the way. My committee chair, Nancy Lee Peluso, was always enthusiastic about my project, pushing me to explore the frontiers of my theoretical and empirical questions with gusto. Thank you, Nancy, for the challenging questions, critical feedback, and mentorship. Louise Fortmann's eye for detail made me a better editor, a more careful writer, and a more thoughtful scholar. Carolyn Finney provided guidance interspersed with laughter, and always helped me return to the most important questions. Lawrence Cohen, one of my first mentors at Berkeley, has always been generous with his brilliance. I am indebted to him for helping to nurture my transformation from public health practitioner to critical scholar. Thanks are also due to Michael Watts, David Winickoff, Adele Clarke, and Nancy Scheper-Hughes for their guidance over the years. I am also indebted to Betsy Hartmann for her ongoing feedback, sharing of resources, and nuanced insights on population-environment politics.

I am deeply indebted to my writing partner, Martine Lappé, for sharing her brilliant insights on many occasions. Martine read every word, and never tired of providing thoughtful feedback and encouragement. I am most grateful. Many others also read drafts, offered feedback, and helped me stay on track. Thank you to Bhavna, Carolina and the participants in the Center for Race and Gender Dissertation Writing Group. Thanks also to the WG group, Hodari and Lisa Marie, for showing up and expecting me to do the same.

Throughout my academic career, I have benefited from wonderful friendships that have endured and provided the necessary laughter to not just survive graduate school, but to thrive. To my first cohort, Larisa, Mara, James, Elizabeth, Alysoun and Andy, where would I be without you? And to ESPM friends, Catherine, Mez, Jason M. and Kendra, thank you for necessary distractions and camaraderie. I am also grateful to those who helped ease my transition into

graduate school, and those who helped sustain me throughout. Suepattra, Ugo, Fui Fui, Theresa, Tanya, Al, and JW, it was all the better for you being there. I also must thank those whose friendship helped remind me that work-life balance is indeed necessary. Amy, Karen, members of Life Group, Marcus, and Jill, thank you for pulling me away from my laptop when possible. Much gratitude is owed to my colleagues, Matthew and Cristina, for giving me the time and space to write, and for going to bat for me when necessary. Many thanks to Jason W. for helping me get through oral exams and much more.

Finally, I am eternally grateful for the unwavering love and support of my family. My parents, Frank and Janet Sasser, have provided shoulders to lean on, ears to listen, and a firm push in the right direction when necessary. To Airia, Deanna, Adrienne, and Emile, thank you for visits, food, refuge, and reasons to get away. My grandmother, Loretta Orme, was my first intellectual role model. I am indebted to her for always maintaining an extensive library, and for nurturing my intellectual curiosity and voracious appetite for books from an early age.

And to my friend Carmen. We began this PhD journey together, and I never imagined that we would not finish it that way. You always offered kind words, laughter, and warm friendship. Your death was a shock to us all. We still miss you terribly.

Chapter 1

Introduction: The Return of the Environmental Population 'Crisis'

On October 31, 2011, world population reached a new milestone: there were now a total of 7 billion people on Earth[1]. The news was shared across a range of media, from newspaper reports and journal articles, to blog entries, Facebook posts and Twitter feed timelines. The United States Agency for International Development (USAID) created a new webpage, *The World at 7 Billion*, designed to trumpet the health benefits of reducing women's fertility through improved distribution of Western contraceptive methods around the globe. At the same time, the United Nations Population Fund (UNFPA) launched a project titled "7 Billion Actions", designed to collect individual stories of community champions of family planning and sustainable development. For international development agencies, reaching the 7 billion mark represented both a failure and an opportunity: although international contraceptive distribution campaigns had not brought down birth rates as quickly as anticipated in earlier decades, the moment provided a reason to increase popular attention to the importance of family planning interventions in bringing down global population growth. These messages could be disseminated to a variety of stakeholders, from feminist groups to environmentalists. In fact, the Feminist Majority Foundation took a similar approach to the development agencies, producing a series of blogs focused on women's unmet need for family planning, gender inequality, and the role of family planning in protecting maternal health in the context of 7 billion people on Earth. For others concerned with the impacts of global population growth, the new milestone signaled a new moment in an ongoing crisis in social, political and environmental conditions around the world. For example, two days after the announcement, a New York Times Op-Ed analyzed the news in dire terms, communicating a vision of demographic explosion connected to political instability and environmental crisis:

> "What's the impact of overpopulation? One is that youth bulges in rapidly growing countries like Afghanistan and Yemen makes them more prone to conflict and terrorism. Booming populations also contribute to global poverty and make it impossible to protect virgin forests or fend off climate change. Some studies have suggested that a simple way to reduce carbon emissions in the year 2100 is to curb population growth today." (Kristof 2011).

Not all environmentalist reactions to the news were similar. Some environmental non-governmental organizations (ENGOs) looked to the 7 billion milestone as an opportunity to develop a range of new tools and strategies for recruiting new constituents. The Center for Biological Diversity, an ENGO based in Arizona, developed its "7 Billion and Counting[2] Campaign", urging community members to organize and attend population-themed educational events, write letters to the editor of local newspapers, and sign up to distribute condoms

[1] This number, like all population projections, was based on an approximation. It is not a reflection of an actual number achieved on that particular day (http://www.nytimes.com/2011/11/01/world/united-nations-reports-7-billion-humans-but-others-dont-count-on-it.html?_r=1&scp=6&sq=population&st=cse). However, October 31st was deliberately chosen as the day to announce the 7 billionth person. Given the role of population growth in apocalyptic scenarios of planetary destruction, the choice of Halloween for the announcement day was significant for its macabre overtones.

[2] http://www.biologicaldiversity.org/campaigns/overpopulation/7_billion_and_counting/index.html

emblazoned with messages about overpopulation[3]. Leading with the slogan, "Overpopulation and overconsumption are the root causes of environmental degradation"[4], the campaign primarily targets sexually active young people with catchy slogans and actions, including the development of a "Hump Smarter Hotline" providing callers with messages about deleterious impacts of population growth on climate change, species conservation, and a range of other global scale environmental problems. The Sierra Club, known for its controversial history of engagement with local debates on population and environment in California, produced a series of blogs and participated in the international conference on climate change (the 17th annual Conference of Parties, or COP17) with an approach designed to enroll college-age environmental activists in population reduction and international family planning advocacy efforts.

While these strategies may appear to be grounded in different organizational approaches, they arise from a shared messaging and advocacy strategy. Developed in the early 1990s, this strategy argues that population growth is best addressed on a global scale through international development interventions focused on increasing access to contraceptive technologies for women in the global South. Key to the approach is an emphasis on women's empowerment, sexual and reproductive health and rights (SRHR), articulated through a focus on access to contraceptives as both a health intervention and a tool for effecting broad social and cultural change. Closely linked to this strategy is the perspective that says that reducing population growth through family planning interventions offers a range of positive effects, from sustainable use of natural resources to poverty alleviation and increased gender equality. As population actors have moved away from an explicit focus on top-down population control programs over the past two decades, the global "population problem" has been articulated primarily as a technical problem of supply and demand, with universal access to Western contraceptives as the key solution.

This dissertation is about the problem of global population, as constructed, circulated and contested among a group of environmental scientists, activists, NGO employees and donors engaged in international policy advocacy. It argues that contemporary knowledge of population as an environmental problem is produced at the nexus of scientific and political processes which are mutually constituted and co-produced, such that it is impossible to tease these strands apart. In other words, what we know about global population growth is the result of both scientific study and political strategy, which have arisen simultaneously, shaping and producing each other in an inextricably linked set of relationships. We cannot know 'population' outside of the demographic projections, S-curve logarithms and statistical data through which it is communicated. At the same time, as this dissertation demonstrates, this scientific knowledge has been produced within political environments in which population was already deemed a problem necessitating further study and policy interventions. Thus, population is both a scientific and a political object- one that must be understood as produced simultaneously in both contexts. As the seemingly disparate fields of science, politics and policymaking entwine through the population

[3] The Endangered Species Condom campaign, developed in 2010, uses catchy slogans to argue that "overpopulation" is a direct cause of environmental degradation, particularly the endangerment of animal habitats. Condoms are packaged in brightly illustrated boxes bearing slogans such as, "Hump smarter, save the snail darter", "Cover your tweedle, save the burying beetle", and "Wear a jimmy hat, save the big cat": http://www.endangeredspeciescondoms.com/

[4] While familiar in the context of historical messaging, this approach is uncommon today. Most environmental organizations that operate population programs today have replaced terms such as "overpopulation" with more nuanced language focused on "population-environment linkages".

problem, it becomes clear that these arenas are in fact not distinct, and that their boundaries are characterized by significant blurring and overlap.

This dissertation follows a loosely organized group of environmental international development actors charged with producing and circulating the new global population strategies. It explores how their efforts to shape knowledge on population and the development of international population policy mediate complex relationships between environmental and demographic sciences, development politics, and foreign policy. At the same time, it interrogates how population growth comes to be known and communicated as an urgent environmental problem necessitating development interventions, and the formal practices through which these interventions are advocated.

Historically, environmentalists in the U.S. have linked population growth and environmental change through crisis narratives (Hartmann 2007; Roe 1995) that position population growth as a direct, linear cause of environmental degradation (see Ehrlich 1968). This approach played a key role in global population control efforts from the late 1960s to the mid 1990s. However, a paradigm change in international population politics in 1994 effectively repudiated top-down population control strategies in favor of a focus on women's sexual and reproductive health and rights (SRHR). According to the new approach, the most effective means of slowing global population growth and improving SRHR is achieved through providing the world's women with universal access to Western contraceptives, a strategy which proponents argue, also provides benefits to environmental sustainability, poverty alleviation, gender inequality, and a range of other social problems (Mazur 2010). More than a technical strategy, this approach is articulated as an important tool of social justice- one that provides key benefits for women's empowerment, human health, and the environment- thus making it possible to promote as a 'win-win' development strategy (O'Neill 2010; Birdsall 1994).

One of the effects of this population-focused emphasis on women's rights is that it attempts the *technicalization of women's empowerment.* Ideas about women's empowerment have been narrowly interpreted in the population and environment development community through a focus on the technical intervention of contraceptive distribution, an approach that effectively disables more critical and complex articulations of the relationships between population, development, environment and gender. Concurrent with this technical intervention is the ongoing production of knowledges arguing that population growth is an urgent global environmental problem. Far from static, these knowledges are dynamic and flexible, constantly in a state of tension with opposing arguments, social movements and environmental frameworks. As this study demonstrates, knowledge about the environmental effects of population growth must be continually produced, circulated and refined by development actors who primarily seek to translate this knowledge into policy prescriptions.

Background

A close tracking of the contentious debates involved in the contemporary population-environment[5] development approach and its implementation will show that what is at stake is not

[5] There are many ways that relationships between population trends and environmental change are characterized by scientific and development actors. Throughout this dissertation, the term "population-environment" refers to the position that population

simply contestations over scientific knowledge or politics. Rather, my project reveals the ways in which women's bodies, fertilities and reproduction in the global South come to be known and sustained as environmental problems in the North, with scientific and technological solutions based on articulating women's health interventions as women's rights. I demonstrate that the development and implementation of these strategies works to subvert the assertion of more radical critiques along racial, gendered and class lines.

During the second half of the twentieth century, discussions of the relationship between population trends and environmental change have come to occupy a prominent role in academic, popular, scientific and policy debates. These discussions are frequently fraught with conflict, refracted through heavily polarized and somewhat static lenses. Ecological-scientific arguments in the tradition of Malthus (Harte 2009; Ehrlich 1968; Hardin 1968; cf. Malthus (2004[1798]) assert that rapid population growth, particularly among the poor, dangerously exceeds the Earth's carrying capacity, as opposed to critical political ecology arguments identifying capitalist-driven resource extraction and neoliberal market commoditization of nature as key drivers of environmental degradation, poverty and continued population growth (Davis 2002; Jarosz 1993; Watts 1983; Mamdani 1972).

At the same time, critical feminist analyses assert the roles of patriarchy, colonialism and racism in producing contemporary representations of population growth as a means of blaming the fertility of poor women for a host of environmental problems more appropriately attributed to capitalist systems of production, militarization, and patriarchal oppression of women and nature (e.g. Silliman & King 1999; Hartmann 1995; Seager 1993). In part as a reaction to these critiques, population development actors began to develop an approach in the mid-1990s identifying solutions to environmental problems, gender inequality and global poverty through an emphasis on public health and family planning for women. Through this lens, U.S. foreign policy actors reconceptualize population-environment linkages, away from a regressive emphasis on population control and toward a progressive focus on women's rights and health. For some, this marked the end of a particular phase of history. Historian Matthew Connelly writes:

> "It might appear that the history of population control, at least, is over. Certainly the global movement to shape demographic trends now lies dormant. All over the world there has been a shift in the locus of control in how societies reproduce themselves, whether locally, nationally, or globally. Individuals are deciding for themselves, with or without anyone's help or permission. They are insisting on their right to choose where they live, and an ever-growing number are managing to get their way…they are also choosing how many children they will have, and even what kind of children they will be." (Connelly 2008: 381)

What Connelly saw as the end of the history of population control marked the beginning of another, related story- one in which a focus on women's fertility in global South countries has been transformed from an environmental problem to a potential avenue toward broad environmental, health and development solutions.

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growth is an important driver of environmental degradation. This definition does not assume the absence of other factors, such as consumption of resources, in producing environmental outcomes, however as the central focus of the advocacy movement I track centers on population growth, this is where the analysis is focused.

The 'Population Problem': Dying or Thriving?

In order to understand the transformations in approaches to women's fertility and family planning by environmental advocates, it is important to understand the context of shifts in fertility rates and population growth in regional and global context. Population growth rates peaked in the early 1960s, and have been in a steady state of decline ever since. Beginning in the late 1960s, women all over the world have been giving birth to fewer and fewer children, leading to an average fertility rate of 2.5 children per woman in 2010 (PRB 2010), compared with 4.92 children per woman in 1950-1955 (UNDP 2009). This trend is also reflected across sub-Saharan Africa, in countries with the highest fertility rates in the world. In Ethiopia, a country widely known as experiencing rapid population growth, women gave birth to an average of 7.17 children in 1950-1955; today, that number is 5.4, and is expected to plummet to 2.19 by 2050 (UNDP 2009). In Niger, currently the country with the world's highest total fertility rate (TFR) in the world at 7.4 children per woman (PRB 2010), individual childbearing is declining to a point that the average woman will bear 3.77 children in 2050 (UNDP 2009). Experts attribute these changes to a range of improvements in women's education, literacy, employment, and access to a variety of forms of contraception.

At the same time that population growth rates are slowing, the notion of global ecological crisis has intensified and become more widely known. Global greenhouse gas emissions in 2010 were at the highest levels ever recorded (IEA 2011), inching the global atmosphere ever closer to the 2°C temperature increase climate experts have established as a global threshold. Between 10% and 50% of higher taxonomic groups (mammals, birds, amphibians) are currently threatened with extinction (MEA 2005). Each year, 13 million hectares of the world's forest are lost to deforestation, primarily in South America and sub-Saharan Africa (MEA 2005).

Despite continuing declines in individual fertility and population growth rates all over the world, many environmentalists continue to argue that rapid population growth is an important cause of ecological crisis. Some have sought to return population-environment linkages to a key place in mainstream American news media. The start of the new millennium saw a dramatic increase in newspaper articles, media reports and scientific studies addressing women's fertility, population growth and their effects on the global environment, arguing that global population growth and its environmental impacts were once again hot topics. One survey revealed that newspapers, magazine articles and blog posts citing the terms "population growth" and "environment" or "climate" increased 4-fold in the 3-year period from 2005 to 2008[6]. The May/June 2010 cover of progressive magazine Mother Jones queries readers, "Who's to Blame for the Population Crisis?,[7]" with a lead article that reprises Paul Ehrlich's infamous taxi ride in India, in which the author's visceral reaction to teeming throngs of brown bodies in the stress enjoins readers to acknowledge that population is as urgent a problem as ever. The article continues:

[6] Adrienne Verilli & Julia Piscitelli. 2008. "Research Findings Report- New Population Challenge." Washington, D.C.: Spitfire Strategies.
[7] Mother Jones 2010. "Who's to Blame for the Population Crisis?" May/June 2010.

> "Survival in the 21st century is different. Its real measure lies in the depth of the snowpack in the Himalayas, in the sustainable tonnage of fish caught in the Bay of Bengal, in the inches of topsoil remaining on the Indian plains, and in the parts per million of coal smoke in the air. The root cause of India's dwindling resources and escalating pollution is the same: the continued exponential growth of humankind". (Whitty 2010: 27)

Scientific American published a special issue on population growth's environmental impact in summer 2009, claiming that "Malthusian limits are back- and squeezing us painfully" (Engelman 2009). In 2010, National Geographic initiated a yearlong series of issues focused on the topic of population growth's environmental consequences. When the United Nations revised its population projections in May 2011, arguing that momentum from prior decades' growth would push world population to peak at 10.1 billion in 2100, the New York Times responded by publishing articles and blogs claiming that continued population growth would intensify demands on the global food supply, colliding with limiting factors like climate change, water scarcity and land shortages[8].

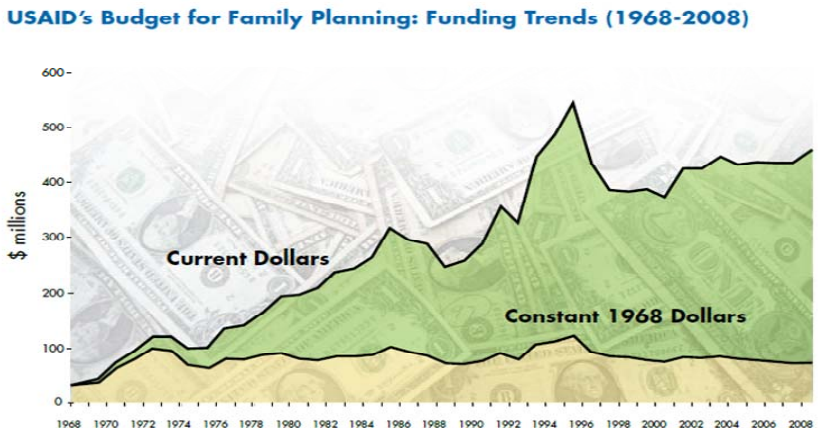
The media accounts of impending population-environment doom clearly conflict with the decades-long trend toward global-scale fertility decline. However, these media productions are not produced to present value-free "facts"; they are designed to revive flagging public support for an international population policy agenda. As Roe (1991) argues, the conditions for the success or failure of development projects around the world are highly uncertain and often ambiguous. As a result, the "pressure to generate narratives about development is directly proportional to the ambiguity decision makers experience over the development process," because micro-level uncertainties lead to a greater tendency to "see the scale of uncertainty at the macrolevel to be so enormous as to require broad explanatory narratives that can be operationalized into standard approaches with widespread application" (ibid). The resulting "blueprint development" narratives continue to promote approaches that bear little relationship to actual conditions in the world. Population development actors have attempted to engineer changes in global population trends for decades, with high ambiguity and dubious success. Despite the fact that fertility is declining all over the world, local conditions precipitating these changes are highly contingent on local political and economic conditions, and do not lend themselves to generalizations or wholesale importing to other contexts (Bandarage 1997). Nevertheless, population-environment advocates continue to advocate for standardized approaches and a blanket response to population growth in the global South, particularly in African countries.

Part of the reason for this is because public and government support for international population policy has waned significantly over the past two decades. A report produced by five former directors of the Population and Reproductive Health Program at the United States Agency for International Development (USAID) tracked the Agency's funding for international family

[8] See "U.N. Forecasts 10.1 Billion People by Century's End", and associated blog posts: http://www.nytimes.com/2011/05/04/world/04population.html

planning between 1995 and 2008, finding that funding for international family planning took a sharp nosedive immediately after ICPD, never regaining its former prominence in U.S. foreign aid budgets [Figure 1].

Figure 1: USAID Budget Allocations for Family Planning, 1968-2008



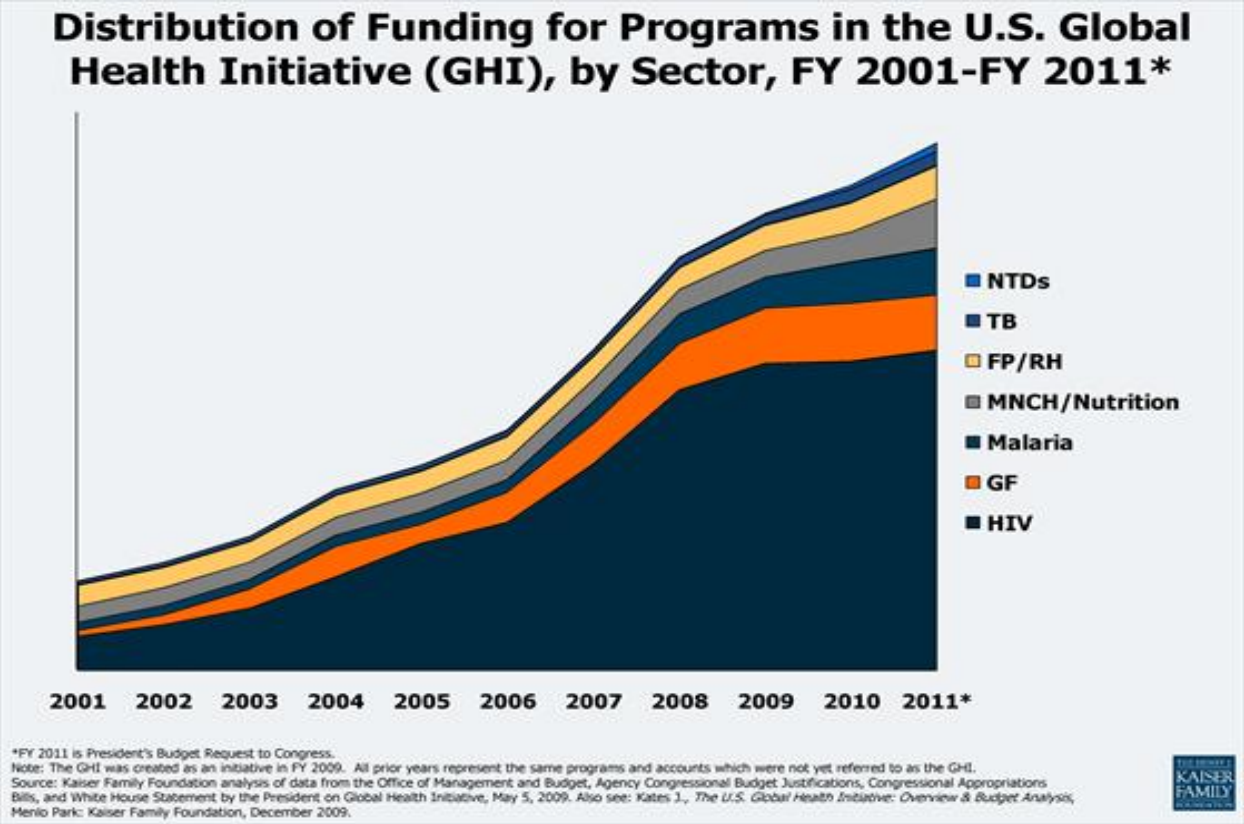
From "Making the Case for U.S. International Family Planning Assistance" 2008

Describing an "enormous pent-up and growing unmet need for family planning", the report cites "mistaken" perceptions of declining global population growth, diversion of funding to HIV/AIDS programs, and a general lack of awareness of the role of family planning in economic development as reasons from funding declines. Although the report does not mention the Cairo Consensus (and the resulting turn toward women's health, rights and empowerment) as a reason for funding declines, some of its authors felt strongly that the conference agreement was the direct cause of immediate funding cuts to international family planning budgets. In an interview, one former USAID population program donor who co-authored the report told me that:

> "…there's been a decline in family planning funds since the Cairo conference. What happened at Cairo was that there was a focus on women's welfare and reproductive health and less emphasis on population-development, and population-environment. For better or for worse, I think the link between population and environment…well, there was the concern that if you were concerned about numbers it would lead to coercive programs like in China so it became politically incorrect to focus on numbers. The women in the forefront didn't intend to take money away from family planning, but that's what happened..."

As of fiscal year 2011, U.S. government allocations for international family planning were at $615 million, a slight decrease from the previous year's high of $648.5 million dollars (Guttmacher Institute 2011). Although this number represents a slight increase over previous years' funding, it nevertheless represents a longstanding trend in which funding for international family planning has stagnated while funds for other health development sectors, such as HIV/AIDS, have dramatically increased [Figure 2].

Figure 2: Congressional Budget Allocations for Global Health, 2001-2011



Given that, in previous decades, population and family planning was the most-funded sector of international public health, these shifts are striking- and profoundly disturbing to members of the population development community. The state of institutional uncertainty about the importance of the population sector in international development fuels a perceived sense of urgency in the population community among those who see the development of new advocacy strategies and narratives as crucial to protecting the sector in which their careers and life work have been housed. At the same time, more pragmatic concerns with career prospects must be understood in the context of attempts to preserve a paradigm that says that population is a central component of international development. Without this understanding, and the widely circulated knowledges that support it, popular narratives and media reports about population and environment would not make sense to a broader audience.

Literature Review

Producing and Managing Population as Problem

Foucault has provided the most sustained analysis of the importance of defining population as a problem of the state (1978). Population as "wealth, population as manpower or labor capacity, population balanced between its own growth and the resources it commanded" (1978:25) became, in the 18th century, an economic and political problem that resulted in what he described as one of the great innovations in the techniques of state power, which he termed "biopower". For governments, populations were to be understood not just as aggregations of people or subjects, but rather as subjects to be understood, monitored, and surveilled via statistical tracking of birth and death rates, fertility, life expectancy, health and illness status. The political economy of population served as an opportunity for state leaders to intervene, manage and direct the sexual energy of populations, serving as a point of entry for ever increasing interventions into the most intimate spheres of family life. As such, the personal and political began to entwine through the management of sexuality required to produce population interventions. Management of sex and fertility is not simply an exercise in rampant exercise of state power, however; it facilitates particular forms of political and economic behavior. A key component of this process was the turning of sex into the basis of a particular form of knowledge production on which "a whole web of discourses, special knowledges, analyses, and injunctions settled" (ibid). These interventions served to render sex, through population surveillance, a rational object of scientific study in order to manage, administer, and police it through public discourse. What ends did this serve? Locating sex at the "juncture of the 'body' and the 'population'", rendered it a crucial target of a form of state power that focused on the management of life, as opposed to the threat of death (1978:147). Referring to this technology as "biopower", Foucault argued that it was necessary for new forms of knowledge production which facilitated projects of state power and control over its citizenry. It is important to note that Foucault saw biopower as indispensable to the development of modern society, and that the growth of institutions of state power both paralleled, and were predicated on, the ever increasing surveillance and management of both individual and social bodies- i.e., populations.

This particular form of state power has also infused the knowledge and management practices central to international development. Initial anthropological studies of international development focused on the ways in which the logics and practices enacted by development organizations produce new forms of knowledge, expertise, and subjectivity through transnational intervention projects (Ferguson 1994; Escobar 1995). More recently, scholars have problematized singular notions of 'development' by investigating the multiple and contingent ways development projects are conceived, designed and implemented by actors within development organizations (Mosse 2005; Goldman 2006), as well as how they are negotiated and contested by those identified as project beneficiaries (Li 2007; West 2006). It is also important to note that the politics of development have unfolded very differently within institutions than they have as they unfurl outside of them. Mosse's (2005) institutional ethnography of a large international development agency argues that in fact, development policy and development practice have little alignment, and that practice in development institutions is more reflective of intra-institutional politics and contestations among networks of institutional actors.

This dissertation is both a study of international development politics and a study of population politics, engaged at the level of studying the powerful actors who work to influence international population policies. The view of development from within necessarily entails analyses of power and privilege in the shaping of international program and policy interventions. At the same time, and particularly in the case of population, these processes are fraught with contestation and contradiction, never unfolding in linear ways, but rather proceeding through negotiations of intersectoral frameworks, resources, and paradigms. Importantly, population debates and international family planning interventions in the global South have been heavily impacted by environmental development priorities. I engage with critical approaches to gender, environment and development in order to further situate the many origins of population policy and science.

Critical Environment and Gender

Feminist political ecologists have demonstrated that experiences, interests, and responsibilities for nature and environment are often constructed along the lines of gender inequality, and mediated by race, culture, and gender (Agarwal 2010; Rocheleau, et al. 1996). Specifically, this approach argues that gender operates as a critical variable in shaping resource access and control, and that it interacts with other social categories such as class, race, culture and ethnicity to shape processes of ecological change, struggles to sustain ecologically viable livelihoods, and sustainable development. It does not simply add gender to analyses of race and class in relation to environment; rather, it builds on analyses of identity and difference, and multiple forms of meaning produced through environmental struggle and change.

Feminist political ecology grew in part out of a desire among some feminists to separate from ecofeminist approaches drawing parallels between the subjugation of women and the subjugation of nature (Warren 2000; Sturgeon 1997; Mies & Shiva 1993). Critics of ecofeminism argue that the approach draws on problematic essentialisms of the relationship between women and nature, particularly because of a central claim that common gender hierarchies place women "below" men, and closer to nature. In contrast, feminist political ecologists focus on the material conditions grounding gendered environmental politics, including rights and responsibilities to manage natural resources. The focus is on concrete social relations of power and the material conditions in which these power relations are produced.

One arena of environmental politics that has had a large impact on women is the development of sustainable development approaches. In the early 1990s, when sustainable development debates began to circulate as a new environmental development paradigm (see chapter 2), women's role in economic and environmental development projects began to come to the fore. A host of women-focused programs developed in rapid succession, from those focused on Women, Environment and Development (WED), to Women in Development (WID), Gender in Development (GID) and associated variations (Women and Development (WAD), Gender and Development (GAD) (Harcourt 1994). This was also a moment of deep contradiction in how women's fertility and reproduction were perceived by the international environmental development community. Amalric (1994) argues that the concept of sustainable development is

based on two contradictory impulses: the desire for modernist expansion in the context of Malthusian natural ecological limits. While modernist development entails processes of opening up, aggregation, unbounding new opportunities, and eroding boundaries and limitations to human freedom, sustainability is tied to the idea of limits, specifically those placed on human activity by the biosphere. Thus, sustainable development "aims to reconcile the drive for infinity, which characterizes modernity, with the finiteness of our biosphere" (ibid, 227).

This dissertation is situated within these debates, extending them to argue that women's position in international environment and resource management debates cannot be understood outside of questions of fertility and reproduction. Throughout, I investigate how the politics of women's fertility overlap with environmental politics and scientific-technological interventions in multiple and contradictory ways, and consider the role of scientific knowledge and technology in defining, shaping and extending environmental ideas about population and sustainability.

Scientific Knowledges and Futures

Scholars of science and technology studies (STS) have produced abundant research documenting the ways in which scientific knowledge production is reflective of social values, political priorities, and disciplinary paradigms. As these studies have demonstrated, rather than simply representing observations about the world, scientific research is produced in the context of social and political orders, which it has an integral role in shaping (Jasanoff 2004). However, scientific studies to attempt to represent factual, value-free representations of the world for various publics to consume. Shapin (1994) argues that "the making of knowledge in general takes place on a moral field and mobilizes particular appreciations of the virtue and characteristics of types of people" (1994: xxvi). In other words, knowledge of the world is inseparable from knowledge of other people, whether other people are transmitters of knowledge or those who are known. Over time, knowledges that have been produced about "populations", particularly those knowledges positing populations as threatening to global environmental sustainability, produce particular conceptions of the people whose populations continue to grow. As a result, whether in the context of victimization, blame or barriers to contraceptive access, private foundations play a key role in producing knowledge about populations in global South countries as being environmentally threatening.

The idiom of co-production, developed by science and technology studies (STS) scholar Sheila Jasanoff (2004), forms a central analytic within this project. Jasanoff argues that "the realities of human experience emerge as the joint achievements of scientific, technical, and social enterprise: science and society, in a word, are *co-produced*, each underwriting the other's existence" (Jasanoff 2004: 17). Co-production arises from the recognition that "the production of order in nature and society has to be discussed in an idiom that does not, even accidentally and without intent, give primacy to either," and, as a result, is reflective of a "self-conscious desire to avoid both social and technoscientific determinism in S&TS accounts of the world" (2004:20). It does not conceptualize truth and power as pre-formed entities that oppose each other, but rather argues that scientific knowledge and political orders "shape, entail, and refer to each other" (Reardon 2005: 8). These are also powerful processes: the ability to produce, shape and circulate knowledge is deeply linked to notions of authority and expertise, the hidden practices of which

co-productionist analyses help to expose. In fact, science often underwrites expressions of political power: "It is through systematic engagement with the natural world and the manufactured, physical environment that modern polities define and refine the meanings of citizenship and civic responsibility, the solidarities of nationhood and interest groups, the boundaries of the public and the private, the possibilities of freedom, and the necessity for control" (Jasanoff 2004: 14).

Montoya (2011) has challenged the concept of co-production, arguing that the idiom does not attend to questions of power that stabilize and inhere in enduring ideologies. While I agree that enduring ideologies work to stabilize the power of discourses, the co-production idiom offers a means of accounting for ongoing productions of science and politics that shape each other and change over time. While population-environment advocacy has been grounded by enduring Malthusian ideologies, shifting political climates have forced the development of new discourses, frameworks, and ideological approaches. Co-production helps account for these shifts, even as population sciences continue to proliferate.

Feminist science scholars have argued that the field of scientific knowledge production has contributed to women's dominance through the assumption of perspectives of objectivity, which privilege male knowledge as well as ideas of dominance, autonomy and control (Keller 1996, Haraway 1991). These scholars assert that objectivity in science is opposed to subjectivity, which is associated with the feminine and devalued- a violent epistemological standpoint that subordinates a variety of knowledge claims and perspectives, including feminist science perspectives, which are rendered invisible in the scientific canon (Harding 1995). These ruptures are particularly problematic in the sense that the notion of objectivity assumes that the scientist is an all-knowing subject, able to see and know all from an unlocatable position of omniscience.

This project raises questions about the role of objectivity in science, demonstrating that scientific knowledge is produced within conducive political contexts in which funding priorities, policy agendas and donor priorities play a significant role in shaping which scientific questions are asked, and which data is produced. It aims, in part, to serve as a corrective to the idea that population growth and women's fertility can ever be known outside of political contexts, and opens up avenues for thinking about the moral and ethical implications of science-based population advocacy.

Situating the Project

My research began with an exploration of the institutional politics of environmental non-governmental organizations (ENGOs) working at the intersections of global population, environment, and SRH development. These organizations often employ a small staff, frequently one person, to serve as their 'population person', responsible for informing NGO members about global population trends, tracking U.S. legislation on international family planning, participating in Congressional lobbying and other policy advocacy, presenting their work at conferences, and when possible, joining with other members of the population-environment advocacy network for joint activities.

Over time, I realized that the population advocacy that these institutions do is constituted by relations within a network of similarly engaged actors, from individual donors, to community and campus activists. As a result, my ethnographic lens was retrained from a focus on ENGO politics, to a focus on the network itself, and the advocacy strategies that sustain them. Over the course of the project, my research questions changed as well, developing through increasingly engaged interaction with long term activists in the population-environment field. My initial research question for this project was, why do environmental advocacy organizations advocate for improvements to women's sexual and reproductive health and rights (SRHR) at a global level? What does this have to do with the missions, goals and strategic priorities of ENGOs? Over the course of the project, I developed several secondary questions: First, how is the broad image of the population-environment movement being remade in the contemporary moment, as the advocacy discourses that undergird it move away from languages of population control to those focused on women's rights, improved global health, and environmental sustainability? Second, what role does science, specifically the science of forecasting and projecting the future (analyzed here within the disciplines of demography, climate science and population ecology), play in advocacy messages that promote population-environment linkages as rational, value-neutral knowledge?

A key aim of this dissertation is to track the practices through which politics and scientific knowledge on global population growth and environmental change are mutually constituted in their production, circulation and grounding through policy advocacy. These practices are far from passive in their development, but rather are the result of the careful and persistent efforts of a network of actors in the U.S. who view population growth as a key arena for intervention in order to ensure environmental sustainability at local and global scales. Throughout this dissertation, I refer to this group as the population-environment network. By interviewing and observing environmental program managers, population-environment activists, and donors, I have sought to understand the politics and practices of international development policymaking on population and family planning from the perspective of the actors working to influence those policies from behind the scenes. In so doing, my aim is to demonstrate the multiplicity of motivations, goals, ethical positions, and moral frameworks utilized by those in this field of development, as they attempt to advance a cohesive movement built on frameworks that have for some time been deemed politically untenable. At the same time, a secondary goal is to investigate the ways in which knowledge about the body, particularly poor women's bodies and fertility in the global South, is constructed, disseminated and utilized as the basis for political action by a network of actors located at vast geographic, cultural, political and economic distances from those whose experiences they claim to represent. In other words, I attempt to understand how the "other", in this case, the universal "Woman" of the global South (Mohanty 1991) is constructed through the melding of scientific data and social activism in order to advance a policy agenda in the United States.

Race and gender also emerged as key lenses of analysis throughout this project. International population and environment NGOs and their funding organizations are overwhelmingly white and female in their staff composition. SRHR organizations are more racially diverse, depending on organizational focus, however those organizations focused on international work are often similarly constituted with other international development NGOs.

Development is a powerful, white industry (Kothari 2006, White 2002). Moreover, these spaces are occupied primarily by people who see themselves as "doing good work" (Fisher 1997), despite the deeply racialized historical associations of similar projects designed to shape, and shift, the dynamics of global population growth. What makes leaders in these organizations, primarily white American women, authoritative experts on the fertilities and SRHR needs of women in countries like Madagascar, India, Bangladesh, and Ethiopia? What establishes and maintains the credibility and authority to speak as a representative of the needs of other women?

Science, political messaging and a sense that one is doing good work contribute significantly to the production and maintenance of development authority. The urge to do good work, to preserve careers, and to translate science into accessible politics were also motivators for my informants. Many women I interviewed were deeply invested in increasing women's access to contraceptives and abortion, as an extension of a feminist politics that views women's access to family planning as a key component of women's liberation and empowerment. At the same time, many of my informants saw themselves on the right side of environmental politics, uniquely positioned to help head off catastrophic climate change, ongoing biodiversity loss, deforestation and declining soil and water quality through population advocacy. In this context, the anticipation of dystopian environmental futures served as a key impetus for population and SRHR advocacy, while women's health and empowerment functioned as its central organizing framework.

Conducting an ethnographic study of fairly well known ideas and people poses a particular set of challenges to the researcher, namely that of how to "render the familiar strange so that it may be apprehended as ethnography" (Riles 2000: 5). In her ethnography of global institutions, networks and knowledge sharing practices, Riles identifies this succinctly as "the problem of how to render the familiar accessible ethnographically", which requires "finding a point of access from *within* the ethnographic material- it will require turning the Network Inside Out" (2000: 6, emphasis in original). For me, the point of access remains the ongoing development of new ideas, strategies, messages, and frameworks necessary for today's advocates to distinguish updates population-environment linkages from their controversial past. These practices revealed dynamic nature of political advocacy, and the necessity for continuing development of new ways of conceiving, articulating and circulating ideas, as well as constant relentless enrolling of new members of the advocacy network.

Methods

Ethnographic research often leads the researcher down paths that were unanticipated when the project was first initiated, and my work is no different. This project was initially conceptualized as a study of integrated Population-Health-Environment (PHE)[9] programs in Madagascar. However, a protracted political crisis in Madagascar, beginning in early 2009, led to the abrupt withdrawal of international support for environment development projects in Madagascar, bringing ongoing PHE projects to a grinding halt and preventing the initiation of

[9] Population-Health-Environment Projects are USAID-funded development projects that integrate population and family planning interventions with natural resource management strategies and primary health care interventions, such as water and sanitation programs. While projects are integrated across sectors, a key logic of these programs is that slowing population growth through voluntary family planning services and improved access to basic health care contributes to better management of natural resources. See project website: http://www.ehproject.org/phe/phe.html

new projects with U.S. government funding. With my initial field site in flux, I relocated the site of the project to the U.S., to the sites in which population-environment projects are conceptualized, advocated for, and funded. From this vantage point, I have been able to explore the logics and politics that inform population development strategies from their inception, as they travel along multiple circuits of funding, advocacy, and education.

My dissertation research is grounded in three modes of data collection: participant observation at population-environment advocacy trainings, workshops, research presentations, and conference sessions; in-depth interviews with members of the network and their critics; and analysis of archival documents. Familiarity with particular actors, languages and development paradigms laid the groundwork for this research. My own background as a scholar of international public health and former Peace Corps health volunteer established me as knowledgeable about development paradigms and public health strategies. In addition, my previous work experience as a reproductive health program officer at an international public health NGO greatly facilitated my access to members of the network, establishing me as an insider of sorts with members of the sexual and reproductive health (SRH) community. For those I interviewed primarily on the basis of their environmental advocacy, my status as a PhD candidate in an Environmental Science, Policy & Management program provided a point of entrée. To my surprise, I never encountered hesitance or refusal to participate in interviews, despite the oft-invoked sense of wariness described by informants who described feeling embattled by consistently negative portrayals of population-environment advocacy by social science scholars. Over time, I realized that the lack of resistance among my informants was most often based on a firm belief among members of the network that they are doing work that is fundamentally good, work that will improve the lives of women around the world. I also found over time that my informants often described feeling misunderstood by those outside the network, particularly critical scholars, and they expressed hope that my dissertation research would help to overturn the misconceptions about the work they do, and the politics informing it.

Fieldwork took place over a twenty-one month period from April 2009 through December 2010. During this period, I attended ten workshops, conferences, trainings and research presentations focused on the linkage between population growth and environmental change. Of these meetings, nine advocated for reducing global population growth in order to promote environmental and climate sustainability. One conference took a distinctly different approach, using a critical race and gender analysis to reject ENGO population-environment arguments in favor of an approach centered on linking reproductive and environmental justice. The majority of the population-environment advocacy trainings I attended were focused primarily on enrolling youth activists from campus based environmental and SRH clubs at colleges and universities around the U.S. These multi-day trainings were led by the Sierra Club, in conjunction with a series of SRH and women's advocacy organizations, ranging from the Feminist Majority Foundation to the International Women's Health Coalition, and took place in Los Angeles, Washington, D.C. and San Francisco. These trainings also provided the opportunity to conduct a number of in-depth interviews with youth population-environment advocates, as well as ENGO and SRH NGO representatives. Near the end of my research period, I spent three weeks in Cancun, Mexico, participating in the International Climate Change conference (also known as the 16th annual Conference of Parties, or COP 16), which provided a

key opportunity to observe how youth activists trained by the population-environment advocacy network operationalize their advocacy training in international context.

From June 2009 to July 2010, I made five trips to Washington, D.C., ranging from one week to one month in length, during which I conducted most of my interviews with ENGO and SRH NGO representatives. In addition, I conducted 80 formal, one on one interviews with 64 NGO representatives, donors, community activists, scientists and scholars. Approximately half of these interviews were digitally recorded; the rest were recorded via handwritten notes. An additional approximately 30 informal conversations on population, environment, gender and reproduction with both members of the network and activists who critique network strategies also informed this work. Finally, I pored over dozens of program reports, project descriptions, funding analysis documents, meeting notes, and funder network reports, in order to supplement my ethnographic material with archival and contemporary documents. Many of my informants were very generous in providing me with these documents, as well as sharing extensive copies of private correspondence documents.

A Note on Method and Reflexivity

Anthropologists have long grappled with the politics and pragmatics of reflexivity during fieldwork. Because ethnographic work entails long-term engagement with research subjects, complex relationships emerge that straddle and often blur the researcher-researched divide. Anthropology in particular has been haunted by four figures in the reflexive turn: friendship, betrayal, complicity, and seduction/love (Marcus 1998; Newton 1993; Rabinow 1977). Throughout this project, I struggled to identify and reconcile my feelings toward those with whom I was spending my time, asking questions, attending workshops, crafting advocacy messages.

I often found myself occupying a position of deep ambivalence, both toward my research subjects and my research project. These feelings were rooted, in part, in viewing myself as a "citizen anthropologist" (Marcus 1999), a position of a somewhat politicized identity forged in the "networks of multisited research" (1999:18), where the ethnographer is simultaneously an activist, or citizen, of sorts. My project is about activism. In it, I follow a group of program managers, donors, scientists and college students who are committed, in one way or another, to the project of slowing global population growth as a component of their environmental activism. Thus, I was immersed in activist sentiment, language, and energy throughout fieldwork, and after more than a year out of the "field", traces of these energies continue to cling to me now, similar to long-lingering aromatic traces embedded in clothing, skin, hair. However, I was not then, nor am I now, a population or environmental sustainability activist. My own complicated professional and personal background was rooted in somewhat of an activist orientation toward women's rights, sexual and reproductive health, and critiques of international development programs that replicated the conditions of political and economic marginalization relegating women all over the world to positions of abject poverty. International family planning programs were, for me, about women's health. However, initial fieldwork in Madagascar exposed this position as naïve and uninformed in the harsh, glaring light of development politics. As a friend at USAID once intimated, population and family planning programs in Madagascar are heavily

impacted by the environmental agenda, which has much more cache with development elites in the U.S. Population politics are environmental politics, and environmental politics often embed some anxieties about population size, growth, and movement.

These politics did not resonate with my own, however I was determined to understand them, to lay them bare, to open them up and tinker with them, and hopefully put them back together in new ways that I found more sympathetic (often the ethnographer's impulse). However, over the course of fieldwork, I slipped into a profoundly ambivalent space inspired by ongoing conversations with research subjects deeply committed to making what they see as a better world, both environmentally and for women. My own commitment to as deep an ethnography as possible, given the circumstances, would not allow a refusal of sympathies with my informants. Can development interventions be used as tools for social justice, even if their framings are problematic on political and social grounds? Do the ends (increased women's access to contraceptives and other reproductive health services) justify means (partnering with neo-Malthusian thinkers, simplistic message framing, strategic elisions of cultural difference and gender politics in target countries) that may be the most efficient? Is increased funding for family planning all that matters?

My challenge throughout this project was to maintain a commitment to a critical position focused on analyses of political economy and race and gender politics, while remaining sympathetic to certain policy outcomes for international family planning. As I mentioned, this challenge produced a profound sense of political ambivalence toward my research subjects and their politics, which I hold in tension with a critical academic stance throughout this project. This project is the result of these tensions. It is the result of long engagement in spaces characterized by ambivalence, and a sustained grappling with the many contradictions I found there. The resulting account is as true to my own ambivalent sympathies and commitments as possible, entwined as it is with the critical analysis of population politics.

Chapter Outline

Chapter 2 of this dissertation traces the development of scientific knowledge, theoretical arguments, and intervention practices linking population growth with state, development, and environmental projects in historical context. It begins with an early historical analysis of how population first began to be identified as a central problem of state-making and security, playing a central role in the development of international relations, development and ecological sciences. It argues that the development of environmental sciences and population politics have been entangled and overlapping for centuries, with neo-Malthusian arguments forming a core hegemonic narrative in the conceptualization of global environmental problems. The chapter traces how population interventions have become enshrined in development approaches in contrasting ways over time, arguing that women's reproduction and rights have become conceptualized in international development schemes as problems of science, state power, and international development in ways that reflect the political concerns and ideologies of their times.

The following two chapters (3 and 4) closely track my ethnographic engagements with members of the population-environment network, exploring the micropractices through which race and gender shape population-environment advocacy work today. Chapter 3 describes the ways women's fertility in the global South is made known to American population-environment advocates, particularly college youth, through advocacy training projects that simultaneously produce development actors. The chapter explores the vastly different ways women's health activists characterize this knowledge, both in terms of defining sexual and reproductive priorities, as well as the language frameworks used to describe them. Ultimately, as with other development interventions, international family planning advocates circulate knowledge that views women's fertility through the lens of scientific and technical interventions. This chapter argues that the ever-widening scope of strategies used to advocate population-environment linkages, including rendering women's empowerment discourses into technical interventions, are ultimately at odds with justice frameworks based on critical intersectional analysis.

Chapter 4 demonstrates the contradictory role of race in shaping ENGO-led population advocacy today, and investigates the impact of histories of racial controversy in shaping current population advocacy approaches. I argue that, although these histories are often silenced, ignored, or subverted into attempts to demonstrate racial diversity as social progress, population advocates express a profound sense of ambivalence regarding their roles as representatives of racial diversity for an advocacy movement that has historically been grounded in explicitly racist narratives. Going beyond questions of controversy and silence, racial politics in population-environment advocacy invoke internal tensions and contradictions within the advocacy network and the member institutions that comprise it, as they attempt to define a progressive vision for population work while contending with a deeply problematic past.

Chapters 5 and 6 link micropractices to more macro-level questions in how scientific knowledge and political/policy developments mutually constitute each other. Chapter 5 is focused on shifting trends in donor funding, politics, and creative funding. I argue that recent shifts away from population advocacy led by ENGOs have been accompanied by a stronger donor-led emphasis on funding demographic and climate science research. The chapter demonstrates that, while overall funding levels for population-environment programs have diminished, an increasing focus on climate change is renewing donor interest in this arena, which private foundation donors and their ENGO grantees identify as a hopeful opportunity to reassert the primacy of population in U.S. foreign policy.

Chapter 6 demonstrates the tensions and contradictions found at the population science-policy interface through an exploration of climate change as a problem of environmental, moral and ethical dimensions. It analyzes the role of scientific projections of multiple possible futures in producing population advocacy, through what I term, "anticipatory politics". In this context, the lines between science and advocacy are frequently blurred, organizing and reorganizing themselves around development agendas, priorities and pragmatics. In this chapter, I argue that the ways in which scientists and advocates blur the boundaries between science, politics and policymaking provides an opportunity to rethink linkages between knowledge, politics, affect, temporality and ethical debates.

Chapter 7 concludes the dissertation by reflecting on recent developments in framing population-environment linkages through analyses of racial power and privilege. In this chapter, I highlight the implications of a continuing focus on women's bodies and fertilities as drivers of environmental degradation, and raise questions about the politics and possibilities of engaging critical feminist environmental knowledge and politics inside and outside of these frameworks. In addition, I raise questions about the role of transnational youth organizing as the next wave of population-environment advocacy, arguing that without critical, structural analyses of the drivers of climate change, young activists' solutions threaten to replicate the political and social failures of their predecessors.

Conclusion

As this dissertation demonstrates, the makings of foreign policy, international development interventions, and new scientific knowledge are heavily entangled with complex scientific and political debates. This project is an effort to untangle the origins and contemporary unfolding of these debates, through an ethnographic account of the micropractices of population-environment advocacy. It also traces the effects of advocacy work, demonstrating the impacts of contradictory advocacy approaches on members of the network, as well as the knowledges and politics they circulate.

Chapter 2

Population, Environment, and Development: An Historical Review

I. Introduction

Historian Matthew Connelly has argued that "The population of the world is no more and no less than the sum total of billions of acts large and small that together create the conditions of life and death" (2008: 18). In this definition, the term population summons a range of associations, from statistical data and public health studies, national and international politics, international development and family planning, modernization, demographic projections and human migration patterns. More than quantitative aggregates of groups of people, populations are political and symbolic entities representative of nations, global regions, and racial and ethnic groupings. Scholars and politicians have been concerned with managing the growth, decline, and migration of populations from early antiquity, and have developed complex apparatuses of surveillance and regulation to facilitate these projects. An historical analysis of population demonstrates that it has emerged over time as an important problem taken up by scholars and political actors across a range of disciplines and sectors of governance and development. Whether they are growing, declining, or moving between national and regional borders, populations are everywhere constituted as problems to be studied, managed, and directed. Why is this the case? And how have the symbolic, scientific and political forms of significance attached to population, changed the way the population 'problem' has been understood over time?

For many environmentalists, the term population stands in for population *growth*, reflecting assumptions of a static, linear progression linking unrelenting growth with environmental degradation. Despite its dominance in contemporary discussions of the 'population problem' in the latter half of the twentieth century, the environment is just one lens through which population has been problematized over time. This chapter explores the historical development of that matrix, situating the development of a particular environmentalist conception of population, based on Malthusian ideas, in relation to other approaches focused on problems of state sovereignty, scientific knowledge, and modernization and development.

How did population come to be defined as a problem, and by whom? How did those analyses come to intersect with a host of other problems, ranging from development and poverty alleviation, to international relations, women's health and human rights, and environmental sustainability? This chapter situates the historical trajectory of knowledge production and political practice linking population growth with environment and international development, via a review of the corpus of literature at the intersection of these arenas. An enormous body of academic, gray, and popular literature has been produced on "the population question" over the centuries. Rather than attempting a review of all of this data, this chapter considers the literature reflective of the question of how population has come to be defined over time as an environmental problem requiring international development solutions. In order to understand contemporary thinking and intervention on population in global context, I situate the conceptualization of the 'population problem' historically, to trace the shifts in how population

has been conceptualized and defined, managed and directed by scientific, political and moral actors. In so doing, I argue that population is far from an inevitable social problem, but rather one whose conception as a scientific and political problem was born of significant struggles and contentious relations between a range of social groups over time. The highly contingent historical circumstances that have produced 'the population problem' over time have brought key groups of social actors together in the context of specific knowledge practices (population sciences) and political circumstances (policy formation), which have paved the way for population to emerge as a key environmental problem in the late 20th century. Again, I argue that this was neither inevitable, but contingent on specific social and political circumstances, and the alliance of key actors who came together at particular moments in time to produce population problems and interventions.

The Hegemony of Population

Gramsci's concept of hegemony refers to processes through which subordinated classes of a society consent to their intellectual and moral domination by ruling classes (Hoare & Smith 1971). Arguing that social classes serve as the unifying principle in hegemonic formations, he identified the ideologies of conflicting social classes, born of the material conditions of their lives, as the terrain on which hegemonic struggle takes place. A key component of producing, circulating and stabilizing hegemony is the manufacture of consent- a process through which the masses in a given society spontaneously conform to the direction of a dominant group, conditioned by the prestige of dominant groups, the imposition of hegemonic ideas, and at times, coercive state power (Hoare & Smith 1971). Laclau and Mouffe (1985) build on Gramsci's ideas in their analysis of social movement formations, maintaining that hegemony arises within a field dominated by "articulatory practices" (1985:134) that "[establish] a relation among elements such that their identity is modified as a result of the articulatory practice" (1985: 105). In other words, the ever shifting interplay of social practices, subject positions, discourses and ideologies communicated and negotiated through social practice are forms of articulation. Contingent articulatory practices, thus, serve as the basis for hegemony, which rests not on a closed system of fixed positions and identities, but rather a shifting terrain of ideas and social positions in constant tension and change.

Writing at the same moment, Hall drew on Gramsci to extend the notion of articulation beyond class-based ideologies, arguing that "there is no law which guarantees that the ideology of a class is already and unequivocally given in or corresponds to the position which that class holds in the economic relations of capitalist production" (1985: 94). In other words, class position and ideology do not necessarily correspond, such that the open ended nature of social struggle produces a range of results, one of which being unexpected new associations of ideas with different social groups. The key here is that, given the contingent nature of social relations over time, social groups can produce ideas or ideologies that appear strange, contradictory, and not reflective of their class position. This is important to think about: over time, population has been articulated by various social actors as a social, political, economic and scientific problem, however who articulates those positions and through what lenses has varied over time and across space. The specific ways the population problem has been developed and communicated over time changed as a result of relations between social groups often in a state of conflict.

Goldman's analysis of civil hegemony in the World Bank gives key insights into the role of institutional knowledge production in the manufacture of consent and the production of hegemony among development actors. As his study demonstrates, knowledge production practices co-constitute and mutually depend on political and economic systems and practices. The World Bank and other development institutions produce ideas, concepts, beliefs and practices that are negotiated and contested internally, but are stabilized in the process of transformation from internal debate to intervention project. These "power/knowledge regimes" (2005: 5) are the result of "everyday forms of building up hegemony that influence and pressure people to participate in the formation and stabilization".

An historical analysis of the development of the population problem demonstrates the processes through which hegemonic ideas come to hold over a broad society through articulation. The concept of articulation is helpful here, as it demonstrates the ways that contingent ideas, come together and pull apart in ways that are never inevitable. Population problems, and particularly the contemporary ways we think about them, are reflective of a "link which is not necessarily given in all cases…but which requires particular conditions of existence to appear at all, which has to be positively sustained by specific processes, which is not "eternal" but has to be constantly renewed, which can under some circumstances disappear or be overthrown, leading to the old linkages being dissolved and new conditions- re-articulations- being forged." (Hall 1985:113). Vastly divergent ideas, developed by actors in conflict over time, have come together to forge a shared perspective in the contemporary moment, in ways that were not inevitable and could not have been anticipated. However, at core is the stable, unchanging idea that population itself is an object, both of scientific study, or political interventions, and of state power.

II. Defining the Problem: The Emergence of Population

Populations have fluctuated significantly between cycles of growth and decline from the earliest days of recorded history, influenced heavily by biological, environmental and political events. The pre-Paleolithic era population of humans on earth totaled in the hundreds of thousands- a trend that changed rapidly when Neolithic era innovations in agricultural production allowed former hunter gatherer societies to become sedentary. This resulted in the world's first population explosion, from a few hundred thousand to a quarter billion people over a period of several thousand years (Livi-Bacci 1997). The next major spurt occurred immediately after the Industrial Revolution, when populations began to double themselves in cycles of less than 200 years for the first time. From 1950 to the current moment, world population has more than doubled, moving from slightly more than 2.5 billion people to 7 billion in just 60 years (U.S. Census Bureau; Population Reference Bureau 2011). What influences these trends over time? One factor is reductions in deaths due to widespread improvements in hygiene, sanitation and nutrition, all of which have dramatically reduced the spread of deadly infectious diseases. At the same time, world population has grown in proportion to the availability of food and energy resources, both in terms of natural abundance and through human efforts to increase food yields (Livi-Bacci 1997). This trend has been counterbalanced in different historical moments and regions by influences producing population declines (wars, epidemics, changing patterns of subsistence). However, regardless of whether populations have been in a state of growth, decline, or dramatic fluctuation, social actors concerned with questions of state power have

conceptualized population as a problem of the state, dating from the earliest writings on the topic. How this state problematic was developed, circulated and operationalized over time is the subject of the next few sections of this chapter.

Population as a Problem of the State: Early European Influences

Greek philosophers first began to define aggregate groups of individuals as populations- as groups contributing to the essential functioning of the state. Large populations were viewed as symbols of national strength and potential military power, and national policies promoted high fertility (Hutchinson 1967). Sparta and Athens held opposing population policies, with Sparta encouraging high fertility through special privileges for fathers of large families, in contrast to financial sanctions that were levied against bachelors. While Athens also promoted marriage and childbearing among its citizens, and instituted laws against celibacy, Athenian thought on optimal population size abruptly shifted after the Peloponnesian War, with pronatalist positions being replaced by an emphasis on determining the optimum (limited) population size (Hutchinson 1967). Plato defined the optimal population of any city as 5,040 citizens- a number which, he argued, would provide enough citizens to provide the duties and services required for both war and peacetime, as well as the essential everyday functions of producing and trading food and other means of subsistence, administering state governance, and providing other necessary civic duties (Plato 1901 [380 B.C.]). Although his chosen number was arbitrary, Plato's goal was to define a number that could provide the ideal balance between population size and the means of subsistence, including land, private property and food resources. His ideas were not based on "environmental" concerns, but rather the needs of city-states in times of war. At the same time, he noted that population that exceeded its means of subsistence would by necessity be forced to colonize other lands, an action requiring the development of military apparatuses to ensure state security.

Thus, from the earliest writings on the topic, population was conceptualized in the contexts of both state/territorial governance, international security and the need for an optimal balance with land-based resources to meet the basic needs of individual members of society, as part of the basic blueprint of the ideal state (Jowett 1986). Aristotle was similarly preoccupied with population problems in the context of state-making. His Politics (1997 [384-322 B.C.]) argues that "the first part of a state's equipment is a body of men, and we must consider both how many they ought to be and with what natural qualities" (1326a5-24). Aristotle departed from Plato's line of thinking in that he was concerned not with ideal states, but actual states: accepting inequality as a given, his focus on population questions centered on relationships that maintain solidarity within, or threaten to tear apart, subpopulations characterized by inequality (Kreager 2008). However, both Aristotle and Plato were concerned with the importance of limiting population growth to an optimum size: Aristotle argued that "we know of no state with a reputation for a well-run constitution that does not restrict its numbers" (1326a25). As Kreager argues, Aristotle was most concerned with the importance of "maintaining population sizes that enable positive association between members of the state, thereby ensuring good citizenship and checking the dangers of factionalism" (2008:604).

Despite their differences, Aristotle, Plato and other writers of their time shared a consistent approach to thinking about population: population questions were relevant solely as

they related to the welfare and security of the state (Hutchinson 1967). At the same time, defining optimum size and imposing limits to produce that outcome was a clearly articulated ideal of ancient Greek thought. As a result, population thought, practice and policy was highly contingent and focused on the immediate needs of current conditions, and not relative to any particular set of demographic objectives.

Population thinking began to change in the early modern era, exemplified by the work of theorists like Francesco Patrizzi, whose early 16th century writings were in the vein of what is considered to be modern population thought. In keeping with thinking at the time, he argued that a large population is desirable, but only under conditions in which members of the populace are sufficiently supported with food and other resources. During the same time period, Niccolo Machiavelli wrote in The Prince (2011 [1513]) of the importance of great wealth and a large population as symbols of a ruler's strength. However, he also argued that a population that was too large would be limited by poverty and disease:

> "…when every province of the world so teems with inhabitants that they can neither subsist where they are nor remove elsewhere, every region being equally crowded and over-peopled, and when human craft and wickedness have reached their highest pitch, it must needs come about that the world will purge itself in one or another of these three ways (floods, plagues, or famines)." (Machiavelli 2007 [1512]).

Over the 16th and 17th centuries, contrasting views on the favorability of large population size developed across Europe. Fears of overpopulation and the ill effects of high population density began to flourish in England and Germany, while writers in Italy and France argued in favor of abundant populations as a source of political stability. In 1589, an Italian state employee, Giovanni Botero, produced Della Ragion di Stato, a comprehensive treatise on population theory that anticipated several of the key arguments that would be popularized over 200 years later by T.R. Malthus. Botero argued that population size depended on the interaction of two opposing forces: the power of reproduction, and nutritive power (or means of subsistence). What held human reproductive power in check, he argued, was the force of nutritive power, produced by the available food supply. Ultimately, Botero argued that there is an eventual limit to the increase of humankind, although he advocated in favor of large, expansive populations as the basis of state strength and security.

Tudor England provides an interesting study in the fluctuations of population thinking over time. Immediately following the 14th century Black Death and other plagues, early Tudor England was beset by fears of underpopulation. However, over the next century, as the threat of Spanish military might subsided and England's political position stabilized, the tide of population thinking turned. Elizabethan views on population in the late 16th and early 17th centuries identified poverty and social distress as the results of a too-large population, through arguments that unwieldy populations produce misery and crime (Hutchinson 1967).

This thinking was rooted in the rather sudden growth of the poor in England- a transformation that resulted both from an absolute growth in human numbers, as well as sudden increases in capitalist-driven inflation, which left farmers devastated (Feredici 2004). Federici describes the resulting trend as "the absolute impoverishment of the European working class", a

phenomenon that was “so widespread and general that, by 1550 and long after, workers in Europe were referred to as simply ‘the poor’” (2004: 77). This widespread impoverisation of European workers was associated with significant changes in diet such that meat and many staples appeared from household cupboards. Hunger became a widespread state of daily life for the suddenly-poor, a class that swelled dramatically, seemingly overnight. It was in this context that state authorities in England began to identify poverty, crime and ‘overpopulation’ as the prevailing national problems of the day, leading to the institutionalization of the Elizabethan ‘poor law’ in 1601 (Hutchinson 1967). The law provided money, food and clothing to the ‘settled poor’- those who were temporarily out of work. At the same time, however, some European writers at the time continued to argue that a robust and sizable population was the source and symbol of strength of a country’s leadership. While certain authors associated large populations with idleness, waste, poverty, and potential criminal tendencies, it was just as often viewed as a source of potential labor on behalf of the state. During this historical period, views on the significance of population across Europe fluctuated significantly, with population characterized both as providing benefits for state strength, sovereignty and security, as well as a drain on resources and a potential source of state decline (Hutchinson 1967).

II. A Fork in the Road: Population as Science and Political Economy

In the 18th century, T.R. Malthus emerged as a key figure in the development of scientific and political thought on the significance of population trends. Malthus, an Anglican curate, has had a significant influence on much of the subsequent work that has been done to construct and maintain population as a global environmental problem, particularly in the United States. Thus, I discuss his work and thought in some depth, and this treatment will proceed in two parts: an exploration the significance of his theorizing in the political economy arena, followed by a treatment of Malthusian legacies in scientifically based population thought.

Population and Political Economy

Malthus’ scientific and political economy perspectives on population were heavily influenced by the work of philosopher Adam Smith, who emphasized the importance of individual responsibility and reduced state welfare in the context of growing poverty and inequality, and an increasing population in Britain (Spengler 1976). Smith identified abundance of food as the "principle part of the riches of the world" (1776:174), arguing that as "men, like all other animals, naturally multiply in proportion to the means of their subsistence, food is always, more or less, in demand" (1776: 146). He claimed that national populations grew in proportion to available food resources, claiming that “when food is provided, it is easy to find the necessary cloathing and lodging" (1776: 163). Regarding individual family size, Smith argued that it was to the economic advantage of parents to have abundant families, viewing children as contributing to the prosperity of individual families through their labor. It is important to note that Smith argued stridently against state welfare programs on the premise that they contributed to the growth of poorer social classes that did not contribute effectively to the growth of national economies, an argument that Malthus would expound upon later.

Writing the first book of his six-draft Essay on the Principle of Population in 1798, Malthus took many of his ideas about the role of individualism, a strong work ethic and the role

of personal responsibility in producing a strong labor force from Smith. Like Smith, he also advocated against state welfare, specifically the Poor Laws which provided food aid to the indigent and unemployed. However, he argued that the poor laws directly facilitated population growth by inciting the poor to reproduce by removing the checks provided by nature. Malthus also asserted that the moral and social perfectibility of Man could never be achieved as long as the State intervened on Nature's way of keeping human growth and food resources in balance. Most importantly, he argued that poverty was natural, and that misery in the form of famine was both inevitable and a necessary check to population growth. Malthus certainly had his critics, among whom Karl Marx and Friedrich Engels were particularly vocal. Writing 50 years later, they denied the possibility of a standard law of population, stating instead that "every stage of development has its own law of population" (Meek 1954: 26). Referring to Malthusian theory as a "vile and infamous doctrine", Marx wrote that surplus population is "always bound up with surplus wealth, surplus capital and surplus landed property" (Meek 1954: 60). He viewed Malthusian thought as a transitional stage, one that was useful in drawing widespread attention to the "productive power of soil and humanity" (Meek 1954: 60), but one that ultimately left humanity free from any fears of possible overpopulation because of what it revealed to be the necessary immediate reorganization of society. Marx argued that Malthus' position on population demonstrated the necessity of his own calls for a socialist transition away from capitalism, as it highlighted the role of private property in transforming man into a commodity, processes ultimately leading to the degradation of humanity (Meek 1954).

However, Malthusian views on population growth were ultimately widely incorporated into ongoing knowledge production on population growth as a problem of the state- one requiring management of population itself, rather than the political and economic conditions in which it grows. Foucault's (1978) well known genealogical analysis of the rise and consolidation of state sovereignty in 18th century France places population squarely at the heart of political and economic problems of the state. As he argues, the management of populations through ever increasing management, direction and manipulation of the intimate spheres of life and family represented one of the great historical innovations in the techniques of state power. During this period, state rulers began to study and analyze populations not as individual people or subjects, but as representative of a very specific set of phenomena and variables, including birth and death rates, fertility, life expectancy, health and illness status. At their root, problems of population were problems of sex, and the new emphasis on surveillance of population facilitated the entry of the state into ever more intimate realms of social and family life. According to Foucault, for the first time society "affirmed, in a constant way, that its future and its fortune were tied not only to the number and uprightness of its citizens, to their marriage rules and family organization, but to the manner in which each individual made use of his sex" (1978: 26). Sex thus emerged, through population, as a site at the nexus of two realms in which the political technology of life developed: the disciplines of the body, and the regulation of populations. The individual body and the social body were twinned components of the new techniques of state power called biopower, through which the state exercised its power over life and death: "Broadly speaking, at the juncture of the "body" and the "population", sex became a crucial target of a power organized around the management of life rather than the menace of death" (1978: 147).

Changes in the development and extension of apparatuses of state management and surveillance of sex and population evolved during a period of time in which populations began to widely decline across Europe. Beginning in the late 18th century, a steady and precipitous decline

in individual women's childbearing led to dramatic decreases in population. Despite a lack of similarity in social policies and economic growth patterns, state after state across Europe witnessed the same declines, largely achieved without the use of modern contraceptives (Connelly 2008). Duden (2010[1991]) argues that over the course of the 18th and 19th centuries in Europe, population theorizing underwent significant transformation such that the very word was transformed from an action noun to a technical term, in the context of the broader development of a new branch of mathematics. The 17th century also marked the start of "political arithmetic", or the general quantification of society. Pioneered by William Petty in 1690, this approach attempted to draw parallels between the 'body natural' and the 'body politic' (Duden 2010 [1991]), and in keeping with thinking at the time, to demonstrate that a large population was an indicator of the wealth and power of the state. By the beginning of the 19th century, the focus on quantitative analysis of population trends had moved from a focus on general reasoning to mathematical treatment of data, in which "…a new language came into being, created to observe people in quantitative contexts. These new concepts made it possible to uncover general truths about mass phenomena even though the cause of each particular action was unknown and remained inaccessible…statistics became the new 'Latin' of all modern sciences and the term 'population' lost its tie to actual people." (Duden 2010 [1991]:163). The term population no longer held its reference to people, but rather "clearly the word that had been originally derived from populare, 'to people', had not only lost its active usage; in most contexts it no longer had anything to do with people. It now refers to a totality of objects which may be so many pellets as people." (Duden 2010 [1991]: 163). In other words, the turn toward measuring and communicating population trends in aggregate, quantitative terms, had the effect of de-humanizing thinking about population, rendering it less about human beings than objects in the world. Key to this shift was the way that statistics progressed from an autonomous subject within mathematics to a lingua franca, 'creolizing' everyday English to become the primary way of representing human trends in the world (2010 [1991]). As a result, complex phenomena as famines, epidemics, contraceptives and abortions have become trends communicable through bar graphs and pie charts.

The Nature of Population: Science, Environment and Natural Law

Clearly, there were significant points of both divergence and dovetailing in the development of political and scientific thinking on population between the 17th and 19th centuries. Sir Matthew Hale, a prominent population theorist in England, was an early scientific theorist on the processes through which population trends are shaped by natural laws. Writing about 'prunings of mankind', Hale argued that checks to population such as plagues, famines, war, floods, and 'conflagrations', or fires, were inevitable (Hutchinson 1967). Rather than arguing from an intuitive position as many of his predecessors did, Hale sought to develop a mathematical accounting of his argument. In 1713, he developed his theories of the geometric increase of population, natural checks to population growth, and the generally pessimistic view that population growth leads inevitably to a range of natural and social evils. Hale's ideas clearly presaged those of T.R. Malthus, who extended and popularized the scientific focus in population theorizing. At the time, though, Hale's ideas were significant in that they served as markers of a new direction in population thinking: the move away from intuitive understandings of population's effects, toward an approach rooted in science, specifically natural laws. This new

focus also paved the way for the proliferation of attempts to quantify population trends, in order to make predictions about the future.

Malthus broadened and extended Hale's research, arguing that population (which for him was synonymous with population growth) was subject to the laws of nature, which were immutable, predictable, and determined by God. He argued two fundamental premises as components of his principle of population: first, that food is a fundamental necessity for human life, and second that human sexuality, or "the passion between the sexes", is a necessary and vital component of human nature (1798: 12). He described these postulates as fixed laws of nature, which logically led to his third premise, that unchecked human population growth exceeds the ability of the earth to produce adequate food for human survival. Again, it is important to note that Malthus described his arguments as pervasive laws of Nature which bind all living things (plants, animals and humans) in the same set of natural limits. As a result, he claimed, since population and "production in the earth" are two unequal powers, the great law of nature must keep their effects equal through the natural checks to population: misery and vice. In other words, famine is nature's resource, causing premature death to intervene when the superior power of population surpasses that of subsistence.

The new scientific focus in population thought had a profound impact on a range of academic disciplines which would emerge in the 19th century, particularly biology, its sub-discipline of ecology, and demography. In his autobiography, Charles Darwin wrote, "I happened to read for amusement Malthus on *Population* and, being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved and unfavourable ones destroyed. The result of this would be the formation of new species." (Darwin 1858: 465). Following from this, environmental historian Donald Worster argues that "Darwin's reading of Malthus can make good claim to being the single most important event in the history of Anglo-American ecological thought" (1977: 149). He asserted that Malthus introduced a new "ecological" dimension to Adam Smith's theories on economics, as well as a "gloomy reappraisal of the economy of nature" (1977: 150) in which the balanced order of nature rested on an imbalance between population and resources created by God. Worster's analysis of Malthus' significance is not based on the idea that Malthus pioneered thinking on strict limits to population; Linnean naturalists had long argued for the need for restraints to keep species within necessary bounds, based primarily on studies of plants. However, he argued that Malthus's arguments were innovative in their "ironclad ratios and…warnings of impending national apocalypse" (152). Worster critiques Malthusian logic in that it abstracts individual organisms (the human) from their place in the natural economy, as well as describing human "nature" as a set of fixed qualities instilled by God. In the mechanistic mathematical equation asserted by Malthus and expanded by Darwin, the fertility of organisms is rooted in a static, unchanging natural impulse, with has no capacity to adapt to circumstances or exert conscious control to limit reproduction (Worster 1977).

Also in the Malthusian-Darwinian lineage is the scientific development of eugenic thinking. Sir Francis Galton, a British anthropologist, eugenicist and cousin of Darwin, became interested in studying human heredity after the publication of Origin of Species in 1859 (Kevles 1985). Arguing that "what Nature does blindly, slowly, and ruthlessly, man may do providently, quickly, and kindly" (Galton 1905: p. 50), Galton developed a new mode of scientific inquiry

into human heredity that postulated that "innate moral and intellectual faculties" which are "so closely bound up with the physical ones" could be selectively encouraged through human breeding, thereby producing people of superior stock (Galton 2004 [1883]). In 1883, Galton coined the term eugenics, which he drew from the Greek term *eugenes*, meaning good or well born, and defined it as "the science of improving stock…which, especially in the case of man, takes cognisance of all influences that tend in however remote a degree to give to the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable than they otherwise would have had" (2004 [1883]: 17). His theories were grounded in the belief that "character, disposition, energy, intellect, [and] physical power", as well as criminal tendencies were traits that "we each receive at our birth" as a clearly delimited and permanent endowment (Galton 1901). Reflecting the prevailing thinking within biological anthropology at the time, Galton promoted the view that human traits and characteristics were biologically rooted in race, transmitted through heredity, and that the most desirable traits were those possessed by races who were of superior stock- namely, European races. Beyond rooting notions of racial difference, biological inferiority of certain racial groups (list groups) and race "improvement" in science, Galton's ideas were significant in that they attempted to "define the place and duty of man in the furtherance of the great scheme of evolution" (Galton 2004 [1883]: 2), specifically through state action. Eugenics for Galton was not simply scientific enterprise; it was intended to be the enterprise of the state, and he advocated state policies such as encouraging early marriage between those deemed socially superior, while refusing state welfare to those whose children displayed inferior qualities (Galton 1901).

Galton's eugenic ideas reflected broader concerns about biological and social deterioration, concerns which informed much of the research that was produced over the next century in Europe and North America on questions of race, sexuality, reproduction, nature and environment (Stern 2005). Despite its early associations with scientific racism, however, it is important to note that early eugenicists were primarily occupied with the project of *positive* eugenics, or encouraging the childbearing of those deemed superior, rather than intervening to limit the procreation of the unfit (Roberts 1997). Rather, negative eugenics projects developed over the course of the 20th century in complicated and uneven patterns across the U.S., Western Europe and China. According to historian Alexandra Minna Stern (2005), following the horrific Nazi Germany project guided by ideas focused on engineering racial hygiene, scientific eugenicists in the U.S. were primarily concerned with dissociating themselves from the controversies of state-engineered projects focused on negative eugenics, and thus eugenics research moved in two directions. The first direction primarily focused on individual genetics counseling for couples hoping to have children. The other direction was that of international population control, focused on integrating eugenic ideas about improved population quality with modernization theory and development interventions into international family planning and other control efforts (Stern 2005).

The projects, and effects, of U.S.-led international population control are discussed further in a subsequent section of this chapter. However, it is important to situate eugenic thinking and other related developments within a trajectory in which the management and direction of human reproduction was cast in the light of science. At the same time, it is important to understand the profound influence Malthus and Darwin had in the development of numerous strands of thought which saw the analysis, management and control of human reproduction as an

important scientific problem. In fact, significant sub-disciplinary projects in the natural sciences have developed based on Malthusian principles. For example, population biology and population ecology have contributed much in the way of scientific thinking on how populations grow, change, and interact with their environments, specifically in extending Malthusian thinking on unchanging, natural laws of population. However, where they differ is in their central focus on predicting how populations will grow in the future, including over large time scales. And this difference has played a significant role in directing how population science has impacted international population policies and development.

III. Population and Environment: Making a Global Problem

The "law" of population growth that dominates population biology and population ecology today is based on a mathematical formula called the logistic growth curve. Working with statistician Lowell Reed, American zoologist Raymond Pearl was extremely influential in putting forth the notion of the logistical growth curve as a natural law of how human populations grow. Based on studies of yeast and fruit flies bred in glass jars (1925, 1927), Pearl argued that human population growth follows a strikingly similar pattern to that of other organisms in nature, one that fits into a smooth "S" pattern [Figure 3].

Figure 3. Logistic Growth Curve ("S" Curve)

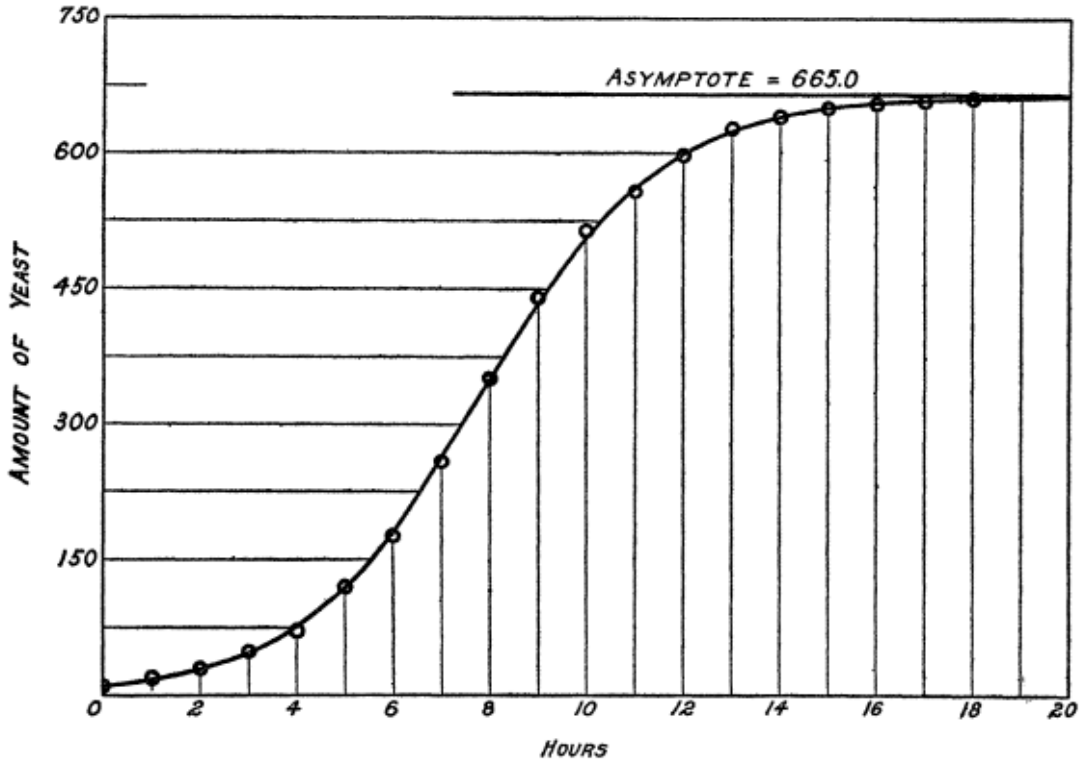


FIG. 1. THE GROWTH OF A POPULATION OF YEAST CELLS

Pearl 1927.

In this model, population grows exponentially until reaching a "point of inflection" precipitated by environmental limitations, at which time it begins to decelerate and decline. Pearl argued stridently that this process is influenced primarily by biology, asserting that "it is irresistibly borne in upon one that all the complexities of human behavior, social organization, economic structure, and political activity, seem to alter much less than would have been expected the results of the operation of those biological forces which basically determine the course of the growth of populations of men, as well as those of yeast cells and…flies" (1925: 18). However, rather than simply reflecting a reality of population growth trends, Höhler argues that the S-curve, produced in the 1920s, in fact *creates* the problem of a world population in imminent crisis, by codifying exponential growth as natural law. At the same time, this quantitative model provided a standard by which "normal" and population trends could be measured and projected, thereby marking out a deviant space of "overpopulation" (Höhler 2005).

It is important to note that the logistic growth curve was widely rejected by economists and demographic statisticians at the time that Pearl widely promoted it, owing to the fact that it did not fit much of the existing data on population trends in individual countries around the world, and was thus ineffective in predicting future population trends with any uniformity (Höhler 2005). Yet, over the next two decades, it became incorporated into measures and formulas tracking organismal population growth in both population biology and population ecology, fields which heavily influenced the development of human demography. What accounts for the wholesale adoption of the curve as a central component of population biology and ecology arguments? The personal efforts of Raymond Pearl had a significant impact on establishing this theory as a natural law (Kingsland 1982). Pearl mounted a massive public relations campaign among his natural scientist peers, publishing numerous papers, articles and books attesting to the validity of the logistic curve model (Kingsland 1982). In one such tome, Pearl laid out three principles on which "the doings of all living things are based": the drive for personal survival, the urge to reproduce, and genetic and somatic variability. To them, he added a fourth, determining factor; the environment. "In considering the biology of populations, one aspect of the environment is of particular importance, both theoretical and practical", he argued. "This is available space. The number of organisms in the population taken in relation to available space determines *density*, a major factor of significance in population biology" (Pearl 1939: 2). Pearl's ultimate goal was to produce a model that could make standard predictions about future population growth at regional and global levels. Today, his model is used to do just that: it is the standard model on which demographic projections used in international policy analysis, such as the annual UN population projections, are based. What initially emerged as an intuitive, a priori perspective on how populations grew in relation to their environments was later transformed into a discredited theoretical postulate, only to emerge decades later in ideas of carrying capacity (Kingsland 1982; Höhler 2005).

Pearl's ideas on population growth played a significant role in the production of later work applying carrying capacity theories to human populations through a neo-Malthusian framework. Fairfield Osborn and William Vogt both published books applying Pearl's ideas on human population growth and natural limits to environmental ideas on carrying capacity, and the limits of land based resources. Osborn's Our Plundered Planet (1948) referred to man as

"geological force" that was ruining his home, the Earth, through poor stewardship practices. The book was a forerunner of apocalyptic environmental thinking that placed the growing number of human beings, and the impacts of their consumption practices, in a primary position of blame for environmental degradation, as well as advocating population control as a means of reducing pressure on the planet's resources. His book was also a harbinger of future environmental writing that would position environmental problems as global, and all of humanity as united in responsibility for environmental destruction. In Road to Survival (1948), William Vogt laid out a theory of carrying capacity uniting all humans the world over: "the lot of each…is completely dependent on his or her global environment, and each one of them in greater or less degree influences that environment. One common denominator controls their lives: the ratio between human populations and the supply of natural resources, with which they live, such as soil, water, plants, and animals." (1948: 14). He delineated a "simple formula" designed to describe the workings of man's relationship to the physical world, as well as to cut through the political complexities surrounding population thinking. Vogt articulated his equation thus: C=B:E, in which C stood for carrying capacity, while B represented biotic potential and E represented environmental resistance. Vogt concluded that carrying capacity was a result of the ratio between the biotic and environmental factors, an equation that he argued "every minute of every day touch[ed] the life of every man, woman and child on the face of the globe" (1948: 16).

Interpreting his conclusions in apocalyptic terms, Vogt argued that were state leaders to ignore the relationships described in his equation, "there is little probability that mankind can long escape the searing downpour of war's death from the skies", leading to a state of global chaos in which "at least three-quarters of the human race will be wiped out" (1948: 17). Although Vogt's work was articulated in scientific terms, it was written as a polemic: in it, he railed against doctors for keeping poor colonial populations alive and able to multiply; he excoriated the poor for reducing and degrading land and soil quality, pushing it to the limits of its productivity, and he advocated harsh policing of the "threat" posed by growing populations in Asia. Among the solutions he advocated, controlling human population growth was primary, via a new approach to contraception. He urged the United States to lead the world in making the most modern information, tools and technologies in contraception available to people all over the world, suggesting that this should take priority over other health sectors addressed by the World Health Organization. Vogt also recommended that the Food and Agriculture Organization (FAO) integrate population control into its conservation and food production programs, including denying food aid to India and China, since with such aid one would "keep alive ten million Indians and Chinese this year, so that fifty million may die five years hence" (1948:282). Although he argued that contraceptive use should be voluntary, Vogt advocated for financial bonuses to be paid to individuals who agreed to be sterilized.

His book was a runaway success: it became an international best seller, and was translated into 9 languages. Three years later Vogt was appointed national director of the Planned Parenthood Association of America, a position which he occupied for the next thirty years on an agenda favoring the distribution of cheap contraceptives, strategies to increase contraceptive demand, and the linking of food aid to population control (Connelly 2008: 150).

Shortly after Vogt's book was published, a volume that similarly applied carrying capacity ideas to humans was produced by Howard Odum, a prominent ecologist. Odum's

Fundamentals of Ecology (1953) introduced the concept of carrying capacity into the growth of human populations through a more scientific approach than that of Vogt, engaging more closely with Pearl's ideas of logistic curve as a standard model of how populations grow relative to environmental constraints. He argued that "when a few individuals are introduced into…an unoccupied area population growth is slow at first…then becomes very rapid…and finally slows down as the environmental resistance increases" (1953: 122). Acknowledging that the trends and limits of human population growth were of extreme interest, Odum claimed that studies of animal populations should be able to provide answers about human population trends. However, he cautioned against the use of the logistic S-curve when analyzing human populations "unless one is sure that the carrying capacity of the environment will remain largely unchanged" (1953: 125). Odum explained the curve thus: when a new population is introduced to an area, it grows exponentially. As environmental resistance increases along with population growth, either mortality increases or fertility decreases, resulting in a slow, then rapid, decline in population growth. "Sooner or later environmental conditions either within or without the population may become unfavorable and population decline and extinction may occur" (1953: 126), he claimed. On the other hand, if environmental conditions become more favorable, he argued, then population growth would likely grow again.

These arguments reflect a growing interest at the time in applying a variety of tools to understand human population growth, based on studies previously focused in the animal world. Carrying capacity is a term that was first coined in 1845 as a reference to the tonnage, or storage capacity, of ships (Sayre 2008). Since that time, significant changes in the understanding of the concept have been advanced. In the first iteration, carrying capacity was understood as a quantitative, predictive, measure of the storage capacity of a human made object or system, a fixed quantity, X that should be able to be carried by some encompassing vehicle, Y. By the end of the 19th century, American naturalists and philosophers were applying the term to living organisms and natural systems; in this context, Y became the X that was being carried by the land. By the 1920s and '30s, carrying capacity was applied to questions of game management and wildlife, primarily through the writings of Aldo Leopold. This perspective spawned efforts to manipulate the increase and decrease of wildlife, as well as manipulating habitats to suit the populations of game they supported. Leopold postulated this argument for humans too in 1941: He went on to venture some thoughts about human population "by analogy with animals" (Leopold [1941] 1991, 282). Finally, from the late 1940's and extending to the present, carrying capacity has been applied to human populations through neo-Malthusian arguments. Sayre (2008) argues that carrying capacity arguments have served as a rationalizing expression of state power and control through "serial application by agencies of the state. Determining an ideal, fixed, and quantitative measure of how much *X* a given *Y* should convey, support, or produce is, it appears, an abiding ambition of government in areas as varied as taxation, resource management, planning, transportation, communications, and conservation." (2008: 132). Because of its development and circulation through scientific discourses, the concept of carrying capacity and associated limits to the growth of human populations has carried the weight of scientific fact such that "even when carrying capacities proved illusory, they provided an appearance of objectivity, rationality, and precision to policies that might otherwise have been revealed as politically or economically motivated." (Sayre 2008: 132).

Neo-Malthusian carrying capacity arguments were famously taken up by prominent neo-Malthusian scientists like Garrett Hardin, Paul Ehrlich, John Holdren and others in the late 1960's. Hardin's essay "Lifeboat Ethics" (1974) likened the wealthy nations of the world to a lifeboat floating on a sea surrounded by an ocean of the poor, who were trying desperately to get in. As he argued, "without a true world government to control reproduction and the use of available resources, the sharing ethic… is impossible. For the foreseeable future, our survival demands that we govern our actions by the ethics of a lifeboat, harsh though they may be." (page #). Ehrlich argued similarly that starving populations in the global South were beyond the scope of concern of wealthier nations, doomed as they were to an inevitable destiny of starvation, based on rampant population growth. His well known text, The Population Bomb (1968) opens thus:

> "The battle to feed all of humanity is over. In the 1970's the world will undergo famines- hundreds of millions of people are going to starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate, although many lives could be saved through dramatic programs to 'stretch' the carrying capacity of the earth by increasing food production. But these programs will only provide a stay of execution unless they are accompanied by determined and successful efforts at population control. Population control is the conscious regulation of the numbers of human beings to meet the needs, not just of individual families, but of society as a whole." (Prologue, 1).

Ehrlich's text strongly advocated for the U.S. and other industrialized countries to cut off food aid to poor countries that were deemed "beyond help", unless they adopted national population policies predicated on universal use of contraceptives. Unlike Vogt, he called for population control through any means available, emphasizing the necessity of coercive means if voluntary methods were unsuccessful. Although his ideas sound extreme when read in the context of the early 21st Century, it is important to note that Ehrlich's ideas both reflected and were generative of widespread American environmentalist sentiment at the time. The Population Bomb enjoyed widespread popularity, selling over 2 million copies and going through 22 printings in the first 5 years. Ehrlich's ideas were so popular in the U.S. that he appeared over a dozen times on the Johnny Carson show throughout the 1970s, and the social movement he created on American college campuses, known as Zero Population Growth (ZPG), swelled rapidly in its membership to over 30,000 members[10] (Connelly 2008).

Ehrlich, Hardin, and the raft of neo-Malthusian writers who produced books and articles in the same time period based their work, and their conclusions, in scientific models and mathematical equations, attempting to ground their dire environmental predictions and socio-political advocacy in cold, hard facts. In 1971, Ehrlich and John Holdren developed an equation, I=PAT, which they claimed demonstrated the ways population interacts with affluence, or resource consumption, and technology use to produce a range of negative environmental impacts. In this equation, I (Impacts) are the direct result of the product of P (Population), A

[10] Zero Population Growth has since been renamed Population Connection, proclaiming itself to be the "largest grassroots population organization in the United States. The organization currently boasts a membership of 130,000 people: http://www.populationconnection.org/site/PageServer?pagename=about_us

(Affluence), and T (Technology), a simplistic model that reduced a host of uneven and complex social, political, and economic factors determining population trends and resource use into a frightening level of simplicity. However, these elements did not represent equal relationships to environmental impacts; rather, the authors argued that population growth "causes a *disproportionate* negative impact on the environment" (1971: 1212), a factor that they saw as necessitating population control, in addition to interventions designed to curb resource control. Moreover, the I=PAT model was intended to represent a universal set of relationships, with a one-size-fits-all approach focused on population control, changing systems of technology distribution, restricted resource use and poverty alleviation at a global level.

The following year, the Club of Rome, led by Donella Meadows, produced Limits to Growth (1972), a book drawing on systems theory to produce a series of computer-generated models depicting how the "exponential growth" of population, food production and consumption patterns would interact with resources such as petroleum, gold, iron and chromium over a period of 200 years. The computer models predictably indicated that eventual "overshoot and collapse" would occur, due to "nonrenewable resource depletion" (1972: 2), leading the Club's conclusion that human population growth and resource use far exceed the carrying capacity of the earth's finite resources. In later decades, Malthusian narratives and environmental scarcity concepts were joined to system theory arguments and extrapolated to produce theories of violent conflict, political instability, and large scale population migration resulting from resource scarcities (Homer-Dixon 1994; 1994). And as the next section demonstrates, these scientific investigations were not limited to the realm of academia. Taken together with research produced in demography, they would form the basis of a new approach that would come to structure relations between industrialized states in the global North, and the newly free nations in the global South that were financially dependent on them. That approach was population control.

IV. Where Science and Policy Intersect: Implementing Population Control

By the middle of the 20th century, demographic studies had shown that populations in the former colonies were continuing to grow rapidly, while in Western Europe, North America and Oceania human growth had either leveled off or declined. What this growth meant, what its impacts and consequences would be for international relations and questions of national security for industrialized nations, were issues that were heavily debated among world superpowers at the time. Immediately after WWII, the U.S. had assumed a new role in international development, thanks to Truman's four point plan, in which he articulated a new role for the U.S. as a leader in poverty alleviation and improvement of the quality of life in newly independent global South nations via technical development projects (Truman 1949). The goals of this proposed involvement in development were twofold. By investing in newly independent nations, the U.S. would have access to a vast supply of natural resources, as well as untapped markets through which to distribute U.S.- produced goods. At the same time, U.S. technical innovations in science, public health, and other arenas were viewed as opportunities to establish the U.S. as a benevolent actor in the world (Truman 1949).

Why were these goals important? At the time, development was intended to provide modernization to "underdeveloped" nations, both winning the hearts and minds of newly independent populations, as well as winning the allegiance of leaders away from the Communist

Soviet Union (Sachs 1991). Transfers of technologies, good and services, and technical knowledge were all key components of U.S. development schemes in global South countries, along with the exporting of capitalist markets and systems of production (Ferguson 1994; Sachs 1991). Along with these transfers, population control linked to prosperity and the ability to consume more, was also viewed as critical to the transition to modernity for newly independent nations (Rostow 1960).

Demographer Frank Notestein first articulated a theory of demographic transition in 1945, arguing that population is a dependent variable, subject to the changing technological, social, economic and political developments of a given society. Arguing that human fertility and mortality change in response to "rather well-known factors, some of which are in a measure predictable" (1945: 36), Notestein outlined a normative four stage model describing the process of demographic transition from high-fertility, high-mortality population trends, to a more modern, stable pattern characterized by low-fertility and low-mortality. The first stage of the transition involved lowering mortality through improvements in agriculture, industrial production, and improving human health and life expectancy. Notestein summed these innovations up as encompassing modernization, arguing that this was the main driver of the first stage of demographic transition. The next stage, in which fertility begins to decline, cannot be ushered in by modernization alone; in Europe, fertility eventually declined "through rational control, largely by means of contraceptive practices", as well as changes around "growing individualism and rising levels of popular aspiration" (1945: 40). Fertility is harder to reduce than death, he argued, and as a result "the period of modernization is virtually certain to yield rapid population increase" (1945: 41). Stating that more than half the world had not begun the demographic transition, he argued that this transition could be brought on through Western intervention, such that these countries could effectively follow the European model: "a period of peace, order, and rapidly rising production were to be accompanied by a thorough and balanced modernization, we could expect the same or even faster immediate growth but a different termination. If such developments brought urbanization, industrialization, rising levels of living, popular education, and popular participation in political life, the same forces that eventually induced a declining fertility in the West would probably come into play" (1945: 52). Notestein rooted his idea of this universal transition in capitalist development, arguing that only a "tremendous increase in production" could bring improvements in social conditions, health status and overall social welfare necessary to reduce fertility for the world's poor. These concerns had by this time become a core component of U.S.-led international development projects, which over time dovetailed with neo-Malthusian population arguments.

Historically, population control has operated as both a discourse justifying policy prescriptions, and a set of real interventions enacted to control and suppress fertility. However, the ways in which population control has been enacted over time has been complex, uneven, and varied across terrains of politics and region. In the U.S., population control became the central objective of efforts to spur Americans to serve as a model to the rest of the world. The largely student-run ZPG movement focused on encouraging Americans to take personal responsibility to limit childbearing as a form of ethical environmental practice, and the group advocated the legalization of birth control and abortion, as well as changes in welfare regulations, and the elimination of tax breaks for children (LIFE 1970). It is important to note that these students aimed their messages at the middle classes, who were encouraged to participate in global stewardship in this way- through ethical management of their own reproduction.

At the same time, population control efforts were under way across the newly independent nations in the global South, led both by state governments and international donors, primarily the U.S. government. Influenced by much of the debate over the potential impacts of rising populations on global food resources, as well as associated arguments over the role of population control in spurring modernization and reducing poverty, international agencies tied food aid and government loan packages to contraceptive distribution schemes (Connelly 2008). Under President Lyndon Johnson, and in conjunction with the World Bank, the U.S. government began in the mid-1960s to distribute experimental contraceptives intended for mass distribution across India. Beginning with the distribution of 1 million intra-uterine devices, an innovative scheme was developed to move away from the medical model of family planning in India, and toward community based provision by trained local providers (Connelly 2008). Promotional incentives such as cash payments and radios were used as part of carrot and stick incentives for community based providers. These schemes were widely supported by the Indian government, as they were attached to increasing control over food aid, the distribution of which had become slower. After Indira Gandhi took the reins of power in India's government in 1966, she immediately intensified population control efforts across the country. Doctors were given bonus payments in exchange for reaching targets for IUD insertions and surgical sterilizations. Non-clinical practitioners were paid per service, with vasectomies paying out double the price for that of IUD insertions (Connelly 2008). Between 1966 and 1967, 1.8 million Indians underwent IUD insertion or sterilization, a number that would increase dramatically a decade later under India's national Emergency period. During the Emergency, family planning became integrated into all government offices' activities, cash payments to IUD and sterilization "acceptors" increased more than ten-fold, and compulsory sterilization was introduced as a component of state policy, often enacted in "sterilization camps". Within one year, more than 8 million sterilizations, including 6.2 million vasectomies and 2.05 million tubal ligations were conducted, primarily among the poor (Connelly 2008).

Although India is a particularly egregious case, by no means is it unique in the role population control played in efforts to develop and modernize the country. Food and Agriculture Organization (FAO) aid distribution in Haiti became tied to contraceptive incentive programs. India, Singapore, and Indonesia denied housing, tax and other benefits to parents who had more than two children. By the early 1980s, Bangladesh was the largest recipient of international population assistance, and as a result, the state imposed harsh punitive measures on those who refused family planning efforts. Members of the Bangladesh army rounded up hundreds of people for forcible sterilization, and food aid from the World Food Program was denied to Bangladeshi flood victims who refused to be sterilized (Connelly 2008). Across sub-Saharan Africa, structural adjustment programs were tied to population control, and demanded that governments develop population policies, including demographic targets, in order to receive loans (Sullivan 2007). Janice Harper's (2002) Madagascar study demonstrated the ways in which a neo-Malthusian forest conservation project withheld medical care from impoverished community members, as a punitive response to women not adopting contraceptive use. Connelly (2008) refers to the escalation of harsh population control measures in increasing regions around the world a "system without a brain", characterized by the setting in motion of processes that gained momentum on their own. Population control seemed to be a machine that ran itself, and it was running amok.

V. Critical Backlash

As previous sections of this chapter demonstrate, American demographers and ecologists in the mid-20th century were centrally concerned with producing population as a global problem encompassing scientific knowledge and policy prescriptions. At that time, academics across disciplines were debating of resource use, population trends, and the significance of technology use, and were producing conclusions in direct opposition to the neo-Malthusian doctrine. Barry Commoner, an ecosocialist biologist, decried the I=PAT equation's overemphasis on population, arguing instead that widespread environmnental degradation resulted from the spread of synthetic technologies, including chemical pesticides, herbicides and fertilizers, nuclear energy, plastics and gasoline engines (Commoner 1971). A group of economists known as "Cornucopianists", known for their beliefs that continued human progress and expansion of earth's productivity could be facilitated by human ingenuity and technological innovation, strongly opposed ecological Malthusianism and the application of carrying capacity ideas to human populations. Tackling the central Malthusian premise that agricultural production limits population growth, Boserup (2002 [1965]) turned this argument on its head by arguing the reverse: that the limits of agricultural production are determined by human population growth. Arguing that patterns of agricultural cultivation and the social structures of agrarian communities are dependent on population, Boserup expounded a general theory of agricultural expansion stating that agricultural output rises in conjunction with population growth in a given area, due to the increased frequency of labor to work the land and the innovation of agricultural methods and technologies to enhance soil fertility. Julian Simon (1977, 1981) also broadly tackled the issues of neo-Malthusianism and environmental doomsday predictions, arguing against the premises that natural resources are finite, as well as refuting the premise that population growth leads to economic decline. Like Boserup, Simon viewed population growth as a positive and necessary driver of necessary technical and social innovations, including improvements in roads and communication systems, economies of scale, government organization and health systems. Arguing that human beings are in fact the "ultimate resource", Simon saw population growth as driving knowledge production, which in turn produced wealth, as well as being a necessary precursor for solving social problems.

Critical anthropologists, geographers, sociologists and other social scientists also responded to these debates by grounding their arguments in critiques of the capitalist mode of production. Organized under frameworks of political economy and political ecology, these scholars critiqued the lack of political analysis of neo-Malthusian claims, charging instead that local and broad scale environmental problems and poverty were similarly driven by the rapaciousness of capitalist accumulation and production (Neumann 2005; Robbins 2004; Peet & Watts 1996). Placing political economy analyses into conversation with ecological debates (Blaikie & Brookfield 1987), they argued that the concept of 'natural' limits to the earth's resources argument is a flawed, implicitly political argument that blames the poor for environmental degradation, a stance that thereby reinforces structural power and structural violence through the control, management and circulation of resources (Robbins 2004).

In many ways, political ecologists have re-united political critiques and scientific analysis by making the political consequences of ecological science the object of its inquiry. By insisting that environmental scientific knowledge is deployed to achieve the spread of neo-Malthusian

development interventions, neoliberal market privatization of resources, and hegemonic state-led resource management projects, political ecologists have opened up the scientific black box of population-environment 'science' to reveal the complicated ways in which this science is deployed to achieve political aims. At the same time, scholars have also investigated the entrenched paradigms through which this knowledge is produced. Fairhead and Leach's (1996) study of scientists' and resource managers' readings of landscape change in West Africa is a case in point. Based on entrenched Malthusian paradigms, the 'experts' in their study assumed that a landscape mosaic comprised of savanna dotted by small forest islands was the result of population-driven deforestation, where in fact these islands were the result of human efforts to create forest zones. Watts' (1983) and Davis' (2002) studies of local and regional famine events demonstrate the role of international markets and capitalist systems of production in producing entrenched hunger and poverty at the local level. For Davis, these politically-driven famines were instrumental in producing what we now know as the "Third World". In this vein, Jarosz's (1993) study of deforestation in Madagascar demonstrated that, counter to prevailing arguments, the dramatic loss of forest cover across the island was driven by colonial policies favoring market-based production of forest commodities, rather than population growth. In fact, her study demonstrated that forest loss was intensified during periods of population *decline* in the country's Eastern rainforest corridor. Several studies have demonstrated that the intersection of population control programs and rural development schemes have resulted in the intensification of local poverty, land dispossession, and few, if any, impacts on fertility trends (Hartmann 1995; Mamdani 1972). Scholars have also demonstrated the racialized, apocalyptic basis of environmental security arguments, arguing that they are often deployed to blame population growth and migration for resource conflicts that are generated by corporations and militaries (Hartmann 2002; Hartmann 2007).

VI. From Theory to Action

A Flood of Conferences

One of the accomplishments of popular environmentalist theorizing in the 1960s and 1970s was the construction and circulation of the notion of a shared global environment, with shared, large scale problems that all nations and regions would be affected by. This notion of new issues of global environmental significance was a distinct feature of new environmentalism (Cotgrove 1982), facilitated in part by the widespread circulation of new images of the earth.

Population fears were codified as a key strategy of international environmental development, specifically through the World Conservation Strategy (WCS), and later through the report of the World Commission on Environment and Development, *Our Common Future* (also known as the Brundtland Report, produced in 1987). Adams (2001) argues that the neo-Malthusian ideas underpinning these reports arose from a forum in which sustainable development was first proposed as a strategy for international development: the United Nations conference on the Human Environment, held in Stockholm in 1972. Developed as a "conference on the human environment", the Stockholm conference was attended by representatives of 113 nations, as well as 500 NGOs who participated in a parallel 'fringe meeting' known as the Environmental Forum. At this fringe meeting, issues most pertinent to global South countries

such as colonialism and economic development were debated, in stark contrast to the more muted conversation on the same topics in the main conference (Adams 2001). However, the conference did result in several key outcomes that prioritized global South country concerns. Its 26 principles and 109 recommendations for action included statements that development would not necessarily need to be impeded by environmental protection; that rational planning and integrated development planning could solve conflicts between development and environmental safeguards; and that development was needed to 'improve the environment'. This conference also created the United Nations Environment Programme (UNEP), an institution that in 1977 commissioned the International Union for the Conservation of Nature and World Resources (IUCN) in 1977 to develop a document outlining global conservation problems and their most effective solutions. That document became the World Conservation Strategy. This document, produced in 1980, argued that all countries should develop a "conscious population policy", which would serve to achieve a "balance between numbers and environment" (IUCN 1980: 20.2). Asserting that soaring population growth and rising demand had led to short sighted approaches to natural resource management, the report applied notions of carrying capacity to human populations on a global scale, ignoring political, social economic and cultural drivers of resource use. At the same time, the document was the first to outline an "ethical imperative" (IUCN 1980: 1.5) to protect and conserve the earth, laying the basis for responsible environmental actions in moral principles and an emphasis on responsibility to future generations (IUCN 1980: 3.3).

Seven years later, the Brundtland Report was produced. This report argued that development and environmental issues could not be treated as separate issues, asserting that poverty and international inequality were drivers of global environmental degradation, and thus must be included as central components of environmental development schemes (Adams 2001). The document defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCES, 1987: 43). Focusing on the need to promote economic growth, the Brundtland Report argued that poverty, along with population growth, is a main driver of pressure on natural resources in global South countries. Although the report emphasized a need to achieve sustainable levels of population, Adams argues that the neo-Malthusian emphasis in the World Conservation Report was softened by the time the Brundtland Report was produced, in part due to the central emphasis on promoting economic growth (2001). The outcomes of the conference, and specifically the concept of sustainable development which it produced, are mixed. Fischer and Hajer (1999) argue that sustainable development was developed within the context of a modernizing environmental discourse that "does not compel existing institutions to reconsider the normative and cultural assumptions and premises underlying their operational practices. To the contrary, such institutions have created new sets of mutual interlinkages, around an understanding of sustainable development that refers at least as much to the perpetuation of

modern techno-industrial arrangements as it does to our basic socio-cultural relationships with

the nature environment *per se*" (p. 5). As such, sustainable development operates as a generative metaphor, or storyline, around which a host of conflicting environmental, economic, scientific

and technocratic interests may converge, without necessitating any fundamental changes in the ways institutions organize environmental practices.

In 1992, the United Nations Conference on Environment and Development (UNCED) was convened in Rio to report progress toward achievement of the goals of the Brundtland Report. With over 8,000 delegates and 3,000 NGO representatives (Robinson 1993), it was a massive undertaking, much larger than the WCS. The resulting Rio Declaration included twenty seven principles, outlining a human "right to development", placing human beings at the center of sustainable development concerns, and calling upon all nations to cooperate in the "essential task" of eradicating poverty, as a basic requirement for sustainable development. At the same time, the document includes one principle which only indirectly addresses the issue of human population growth: principle 8, which states that, "to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies" (UN 1992). It calls for the participation of women in sustainable development, emphasizing their "vital role" in environmental management and development (UN 1992: principle 20).

One significant component of the Rio conference was the role of population debates, primarily located in the Women's Tent of the conference's non-official NGO forum. In intense discussions that often turned toward heated debate, NGOs representing a range of positions including those in favor of population control, feminist activists, women's health organizations, anti-Malthusian global South constituencies and the Vatican, negotiated the role that population would play in the official proceedings of the conference (Campbell 1998; Cohen 1993). Sen (1994) identifies five key social groups and positions that emerged during these debates: population specialists, or demographers primarily focused on mathematical analyses, planning, and aggregate trends; developmentalists focused on devising interventions associated with sustained decline of fertility and mortality; population fundamentalists (or hard-line conservative population controllers); Northern environmentalists; and (often feminist) women's health groups concerned with questions of reproductive rights and health in the context of livelihoods, basic needs and political participation. Each set of actors promoted differing views of population that were consistent with a particular development approach, yet points of commonality and overlap emerged in the drive to produce consensus that could be used to formulate policy. After several days of heated negotiations and debate, coalition of actors led by Southern anti-Malthusians and Northern feminists soundly rejected inclusion of population control as a component of international environmental development, opting instead for a critical focus on Northern consumption practices and advocating for development approaches favoring women's comprehensive sexual and reproductive health care (Goldberg 2009).

The document produced from these debates, known as the "Treaty on Population, Environment and Development", asserted that "women's empowerment to control their own lives is the foundation for all action linking population, environment and development" (paragraph 1), and explicitly rejected all forms of control over women's bodies by governments and international institutions, including coerced sterilization, experimental contraceptive development and denial of access to abortion (Various 1992). Although the document located the drivers of global environment in militarism, debt, structural adjustment, inequitable trade policies, and patterns of consumption and production in the industrialized North, it did include mention of population. However, this mention of population was in sharp contrast to prevailing arguments, locating it in consumption in the global North. This document was the first

articulated in an international development conference's proceedings in which a broad women's empowerment agenda was articulated in the context of family planning. In the preamble to the Treaty, authors stated that they "affirm and support women's health and reproductive rights and their freedom to control their own bodies", an approach which demanded "the empowerment of women, half of the world's population, to exercise free choice and the right to control their fertility and to plan their families." (paragraph 3). The Treaty made it clear that population had no place in discussions of global South environmental development and poverty reduction, aside from a critical analysis of the role of Northern populations' consumption patterns in producing degradation.

What did the negotiations in the Women's Tent, and the treaty produced as a result, accomplish in terms of framing new ways of thinking about population, environment and development? I argue that these negotiations paved the way for complete paradigm shifts in the relationships between population, environment and development, on both ideological and practical grounds. On ideological grounds, Northern populations were inserted into critical population debates as a key actor, via the development of arguments focused on consumption of resources. Global South nations loudly rejected the notion that population growth led to poverty and environmental degradation, assigning the blame for these effects to powerful Northern countries. At the same time, these debates added a new component to debates about population, environment and development: gender. The ways women were differentially impacted by population policies suddenly took center stage, and the improvement of women's reproductive health and social empowerment would soon become a necessary component of any program aimed at addressing population and development.

Following the Rio Conference and in preparation for the International Conference on Population and Development, scheduled to take place two years later, a U.S.-led transnational women's group comprised of feminist activists, NGO program managers and representatives of donor institutions began to meet to outline a shared approach. According to Goldberg (2009), mainstream American feminists active in international family planning advocacy initially organized the group, in part to head off the efforts of radical leftist feminists who had dominated the discussions at Rio. At the Rio conference, the critiques offered by radical feminists included statements rejecting experimental Western contraceptives as genocidal, an approach that more mainstream feminists feared would play into the hands of the Vatican's conservative anti-family planning stance. Thus, through a series of high level meetings, women representing mainstream American perspectives on international family planning goals engaged a powerful coalition of women leaders from around the world, including Nafis Sadik, the head of the United Nations Population fund (UNFPA), and worked with this transnational group to design what would eventually form the basis of the conference's Program of Action. Also known as the Cairo Consensus, the document formalized agreements made at ICPD, declaring reproductive rights to be universal, and asking all nations of the world to foreground women's empowerment as a central component of population and development programs. It enshrined principles such as advancing gender equality, elimination of violence against women, women's ability to control their own fertility and the abandonment of all demographic targets and quotas (UN 1995). Notably, it did not eliminate a focus on population as a component of development programs, but rather reframed it through the lens of women's rights and a focus on individual access to reproductive health services, contraceptive technologies and an emphasis on voluntary family planning.

Unlike the Rio conference, the ICPD produced an international agreement on population that would be binding to those countries that ratified its principles[11]. Thus, while Rio represented a significant symbolic achievement, Cairo was intended to formalize that achievement in practical terms. From this point forward, population control would effectively be repudiated from the language of all international development programs, in favor of a woman-centered approach to empowerment (Mazur 2010; Goldberg 2009; Connelly 2008). How was this accomplished? One critical component was the formulation of key alliances between feminist groups and neo-Malthusians before the ICPD, an unlikely partnership that was actually reflective of long term strategic allegiances that had formed and broken apart at key moments throughout U.S. history (Hodgson & Watkins 1997). One point of coalescence for this alliance was the transformation of the concept of 'unmet need for family planning', a term originally developed by demographers as a descriptor for women who were married, sexually active, not using contraceptives, and not desiring another child. By 1994, the year of ICPD, the term had been transformed by NGO activists, framing unmet need for family planning as an expression of unstated *demand*, and inserting contraceptives as a component of a larger framework of women's human rights:

> "So, what should we emphasize in Cairo? First, we must collectively address the challenge of how to meet the real unmet demand and need of billions of people for simple human dignity and basic human rights. How do we meet the unmet demand and need by the female half of our population for power over their lives, for control over their bodies, for physical and emotional security, for education and economic independence that enables the realization of one's human potential? And how do we meet the unmet consumption demand and need for food, for shelter, for education, for jobs, for health care?" (Abzug 1994).

Where did this new paradigm, which rejected population control in favor of women's health, rights and empowerment, leave population-environment advocates? Some members of the population development community felt that their movement was effectively silenced in the new focus on individual women and SRH, while others suggested that the new approach offered natural benefits to the environment and a 'win-win' perspective (Campbell 1998). Over time, leaders of many environmental organizations came to see the population-environment connection as one that could no longer be talked about openly, due to in part to continued controversies over abortion and increasing opposition to the population control approach that dominated environmental thinking on the issue. Increasingly, post-ICPD euphoria began to wear off as some of its supporters realized that funding support and environmentalist interest in family planning began to wane in the shadow of the new focus on reproductive rights (Sasser 2009).

Ever resilient, population-environment advocates have recently turned toward old strategies developed long before Rio, Cairo and the flux of international politics rendered population-environment linkages a controversial component of development work. They returned to college students. Lively and active in the ZPG movement of the 1970s, college

[11] The Cairo Consensus was ratified in 1994 by 179 countries, including the U.S.

students display a youthful exuberance and desire to change the world- and when translated into activist politics, this approach is highly effective at mobilizing large groups of other young people (Kennelly 2011). Population Connection and later Sierra Club revived the youth mobilization approach to population activism in the early 2000's, which continues today, particularly in the context of mobilizing actions around climate change and social justice. Thanks to the renewed focus on youth, population-environment linkages, long out of vogue, are on the rise once again.

Conclusion

As this chapter demonstrates, the history of population thinking has been heavily influenced by arguments linking scientific knowledge productions with efforts to strengthen and protect state power. Even in the context of environmental science, population has always operated as a political question, with neo-Malthusian arguments forming a core hegemonic narrative positioning population growth as a key driver of environmental problems around the world. This approach has served as a specific strategy for viewing and intervening in relations between vastly unequal people in the world. As population interventions have become enshrined in development approaches in contrasting ways, an historical analysis of these processes highlights the importance of how women's bodies, fertilities and rights have been manipulated by key actors as problems of science, state power, and international development. The next chapter explores the continuation of these historical practices as they manifest in contemporary youth population-environment mobilization efforts.

Chapter Three

Empower Women, Save the Planet? Youth and Population 'Justice'

Introduction

It is the spring of 2009, and I squeeze my way through a packed Berkeley, CA art gallery with over 250 other people, mostly students, for a wine and cheese event. The invitational flyer announced the event, titled, "Sex and Sustainability", as an opportunity for students to come together for food, drink, art and ideas about global sustainability, women's rights and justice. Peering at the fourteen mixed media installations scattered throughout the gallery, I am confronted with images of faceless women bent double in fields, babies strapped to their backs, anonymized women's bodies engulfed in swelling pregnant bellies, and an emaciated child encircled in a prison of skeletal bones. These are meant to be images of women and children in the global South, as indicated both by the disheartening statistics on rapid population growth, maternal and infant mortality posted next to each piece, as well as by the yellow, brown and black paint pigments selected to represent racially recognizable skin tones. The caption beneath one painting reads, "Let's see who dies this time, me or my baby." (Greenbaum 2009).

In contrast to the artwork's somber tone, the energy in the room is upbeat, even cheerful. Marisa[12], a woman in her mid-twenties, is a representative of the Sierra Club's Global Population Environment Program (GPEP. She stands near the gallery entrance, welcoming participants and inviting them to join a mailing list to receive updates on how to "contribute to ensuring women's health and rights, and environmental sustainability". Her t-shirt displays the GPEP program's new campaign logo: "The fate of the world is in your hands…and in your pants". Standing surrounded by posters, pins, t- shirts for sale, stacks of literature and brightly packaged condoms, she is warm, friendly, and energetic, her engaging demeanor and youthful exuberance drawing a continuous crowd of young (mostly) women around her to ask questions, pile materials into their bookbags, and sign her e-mail lists. When Marisa quiets the room to give a brief speech, she draws a seamless line between women's fertility, population growth and environmentalism. "Poor women all over the world are having babies in record numbers, with disastrous impacts on their health, the health of their families, and the environment", she argues. Marisa tells the crowd that, despite the differences in geography and economic conditions, we can all do something about this travesty, right where we are. In fact, we are exactly the right group to stand up for women's empowerment. We are young, we vote, and we care about women's rights and the environment. Looking around the room, her tone becomes urgent. "We must work to advance access to voluntary family planning, advocate for sexuality and reproductive health education, work to reduce consumption, and support the campaign for our government to allocate $1 billion yearly for international family planning. Oh, and write to Obama!" The crowd laughs, clapping when she ends her speech. She is soon surrounded by eager young women with questions, jostling for the pen to join her campaign list.

[12] Except where noted, all personal names used in this dissertation are pseudonyms.

As described in Chapter 2, recent years have seen an upsurge of environmentalist youth participation in NGO-led trainings, campus based workshops and Congressional lobbying events focused on advocating for women's sexual and reproductive health and rights (SRHR). Organized primarily by the Sierra Club's Global Population Environment Program (GPEP), advocacy trainings offer university student activists the opportunity to become fluent in the scientific and political languages necessary to advocate for international family planning policy on environmental grounds, via an emphasis on women's health, rights and empowerment. These trainings also work to promote the idea of population-environment advocacy as a means of effecting social justice for women around the world, a notion which serves as an effective tool for enrolling youth activists in training efforts.

The GPEP training workshops do more than equip college students with knowledge and tools for advocacy: they also transform student activists into development actors. As training participants read population projection slides, memorize demographic statistics and trends, and become conversant in discourses on women's empowerment, they prepare themselves to speak authoritatively about global trends in women's fertility to audiences ranging from Congressional legislators to media publics and other young activists. In so doing, they not only circulate specialized scientific and political knowledge, but they also position themselves as particular kinds of experts- those entitled to speak for and about global South women, and to advocate on their behalf. An analysis of the entitlement to such representational work is a particularly productive means of exploring the operations of privilege and power in development advocacy.

This chapter investigates youth population-environment activism through two lenses. I explore the process of transformation from interested activist to development actor, and analyze how this transformation is enabled through what I term the *technicalization of women's rights*. As described in Chapter 1, the centrality of women's empowerment discourses to advocacy efforts is grounded through a narrow focus on defining and responding to women's needs through a technological fix: contraceptives. A key component of this transformation is the enrollment of new actors as population-environment advocates, specifically youth activists who bring flexible notions of social justice and a simple desire to "do something" to their advocacy work. The process of transformation from youth activist to development actor proceeds through enrollment and training in advocacy strategies predicated on knowing and representing 'others' at a distance, through scientific data and development paradigms. As a result, knowing and representing from a distance becomes central to acquiring a certain kind of power for advocacy-based development actors whose representational claims cannot be challenged by those who they claim to represent. At the same time, these representations become a component of the technoscientific interventions communicated as foundational to protecting women's health and rights.

I use observations from a year-long series of population-environment advocacy trainings held around the U.S., as well as interviews with NGO staff and youth training participants, to highlight some of the ways advocacy efforts hinge on producing knowledge of women's fertility at a distance. I also raise questions about the forms of power and privilege this knowledge production confers on those who circulate it. There are three sections to this chapter. Section one investigates the ways knowledge about women's fertility has been developed and circulated as an environmental problem through scientific and development networks. It also focuses on how these knowledges are transmitted to new population-environment advocates today, in efforts to

enroll them as development actors. Section two tracks the complex practices involved in representing women's fertility as a development problem, specifically through images and narratives about poverty and women's social marginalization in global South countries, particularly in Africa. I analyze the ways in which representation practices dehumanize those they seek to represent, as a key process of rendering women's empowerment and SRHR technical. Finally, section three explores contestations over that which cannot be rendered technical- the race, class and gender inequalities operating throughout reproductive politics debates. In this section, I focus on activist efforts enacted by members of the reproductive justice (RJ) community, highlighting the stark contrasts between the critical, intersectional articulation of women's reproductive politics, and those invoked by population-environment advocates. In sharp contrast, population-environment advocates selectively use RJ frameworks in ways that can be translated into family planning advocacy, thus refusing to engage more critical components of the debate.

Section I: Setting the Stage, Communicating the Problem

Knowing Women's Fertility

A skillful interweaving of scientific data, development language and ethical claims about personal responsibility lay at the heart of GPEP's messaging approach, as part of a long trajectory of development approaches linking population stabilization with social, political and economic progress. Much feminist and political ecology writing has been produced to counteract this approach, and retrain the lens toward the drivers of both environmental degradation and population growth. Bandarage's historical analysis (1999) locates the drivers of population growth in the global South, and population decline in the industrialized North, squarely in industrial capitalism and Western imperialism. Through an historical analysis, she argues that demographic transitions that took place across Europe during the 18th and 19th centuries were facilitated by natural resource extraction and labor intensification in the colonies. At the same time, colonial projects initiated technological and policy based transformations and pronatalist policies in many global South countries, and even after Independence, high infant mortality rates and widespread poverty ensured that birth rates remained high. "The demographic explosion in the Third World, then, is a product of contradictions within the twin forces of modern technology and capitalism", she argues. "These forces brought down death rates through modern technology, but they could not bring down birth rates because they increased social inequality and undermined economic security and self-sufficiency for the masses" (Bandarage 1999:26).

In her critique of the famous I=PAT equation, Hynes (1999) argues that the equation is "agent-less", failing to take into account the extreme differences in consumption, production, technology use and other polluting behaviors between the world's wealthiest people and its most impoverished. As a result, the equation suggests that population growth among the poorest of the poor is equal to that of the most polluting people and industries of the north. Mamdani's (1972) analysis of a family planning program in rural India critiqued family planning programs' emphasis on individual behavior, isolated from the social and political conditions in which sexuality and reproduction are expressed: "the political and scientific reasons for the emphasis on overpopulation are, in fact, two sides of the same coin…If population control is to be a substitute for fundamental social change, then the theorist must look at the population 'problem'

independently of other aspects of social relations. It also follows that he must look at motivation as individual motivation, independent of the individual's social existence." (19). His analysis reframed reproduction in economic terms, arguing that childbearing in rural, agricultural societies often acts as a buffer against economic insecurity, rendering large families a logical strategy for poverty alleviation.

At the same time, family planning programs are designed to intervene on the most intimate aspects of families', and primarily women's, bodies and lives. Hartmann's (1995) critique of family planning programs in international development argues that the primary goal of most international family planning programs is to reduce population growth, rather than to protect women's reproductive decision-making. When related policies support population control programs focused on reducing aggregate human numbers, they ultimately harm women's health and well being. She argues, "the Malthusians are fundamentally wrong. The solution to the population problem lies not in the dimunition of rights, but in their *expansion*. This is because the population problem is not really about a surplus of human numbers, but a lack of basic rights…Rapid population growth is not the cause of underdevelopment; it is a symptom of the slow pace of social reform." (Hartmann 1995:39). Turning much of the development literature on population growth on its head, Hartmann argues that population growth is a symptom, rather than a cause, of poverty and unequal social and economic development, primarily centered on capitalist resource extraction, militarization, and the concentration of wealth in the hands of global elites. Rejecting assertions of blame leveled at the fertility of poor women in the global South, Hartmann roots high fertility in a complex web of social, political and economic relations, arguing that women have children as a result of poverty, high infant and child mortality rates, and gender based inequality. The "myth of overpopulation", she argues, "obfuscates our vision and limits our ability to see the real problems and find workable solutions. Worst of all, it breeds racism and turns women's bodies into a political battlefield." (1995:4).

The emphasis on problematizing the lives and fertilities of global South women for intervention has long been a key practice of development projects, and of Western feminist advocacy. In her foundational essay, "Under Western Eyes", Mohanty (1991) rejects objectifying categorizations of the lives and social relations of global South women and men. This singular image is static, unchanging, neither historically or geographically specific or contingent- a discursive production embedding power relations between feminist subjects occupying the roles of representer and those who are represented. Mohanty writes, "It is in this process of discursive homogenization and systematization of the oppression of women in the third world that power is exercised in much of recent Western feminist discourse" (1991:54), via projects that juxtapose a universal, homogenous global South woman against a complex, self actualizing, Western woman.

The trope of the singular, unchanging global South woman continues to circulate with some vigor in contemporary advocacy projects designed to increase U.S. government funding for international family planning programs. This image has changed to the extent that the referents used to describe her have shifted, from 'Third world woman' to 'Global South woman', 'Impoverished woman', and 'Woman in developing countries'. Despite the shifts in language used to describe, reference and represent this woman, she remains a flat, static image comprised of several characteristics: poverty, high (above replacement) fertility, and the inability to limit her childbearing. Whether in Ghana, India, Madagascar or Cambodia, this circulating referent

endures, shaping language used to describe who women in other countries are, the conditions and causes of their fertility and childbearing practices, and why family planning advocates in the U.S. should care to advocate on their behalf.

Mohanty's analysis argues that in much feminist writing and representation work in the late 20th century, global South women are represented as archetypal victims, men to archetypal aggressors, and all men and women are forced into divisions of "powerful" and "powerless". These constructs assume men and women are "already constituted as sexual-political subjects prior to their entry into the arena of social relations" (1991: 59), she argues, a perspective which misses the point that women and men are constituted through social relations, not through biology. In development projects, as much feminist writing, women are assumed to be a previously existing group before their entry into the realm of development. As a result, rather than demonstrating notions of global South womanhood based on grounded and specific conditions, a universal third world womanhood is presupposed on the basis of subordination. Thus, a universal global South 'woman' is constructed, coded as powerless, static, and existing outside of history or the possibility of dynamic social, political and economic change. These colonial constructs are in fact predicated on the continuing construction of a dichotomy between North/South women, in which women in global North countries are represented as liberated, self actualizing and control of their lives. In order to understand themselves as capable, powerful advocates, American women in development programs must construct an image of a powerless 'other' as their Southern counterpoint.

Population-Environment Advocacy 101

10 a.m., June, 2009: I enter the sleek lobby of a national feminist organization early to attend the "Green-Pink Western Regional Leadership Training", co-sponsored by the Sierra Club GPEP program, a national feminist organization, and a major SRHR nonprofit. A few young women of varying racial backgrounds mill around a refreshment table, stirring their coffee and picking over donuts and bagels. At 10:45, the training begins, and we enter a large, modern conference room with several rows of rectangular tables, each seating three or four people. There are 27 participants at this training, most of them college students in their late teens and early twenties, with small handful of women in their sixties and seventies. We are an almost exclusively female group: 24 of 27 participants are women, 18 of whom are white. Including me, there are two Black women, two Latinas, and one Native American, four Asians, most of whom have attended based on their interest in SRHR and feminist issues. Opening my training brochure, I pull out the printed goals and agenda of the training, and read that by the end of the training, participants will be able to:

- "Describe the relationships among global-to-local issues such as sexual and reproductive health and rights, resource consumption, global warming, population, poverty and gender equity
- Understand the importance of voluntary family planning and sexual health education here and abroad."

The agenda breaks down the schedule for the two-day training in 30-minute and hour long increments, including sessions on "Global Reproductive Health and the Environment", "From Global to Local: Family Planning and Sex Education", values clarification, skills building and role play exercises, and sessions on action planning and community outreach. The interplay between information sharing and action emerges as an important component of the agenda; it is clear that although this training will share knowledge, the emphasis is on building action-oriented advocacy skills. Having attended a year-long series of these trainings, I have noticed that the agenda is formulaic: we will move back and forth between the "hard facts" of statistical data, UN population projections and statistics on natural resource decline, and the softer sell of how to massage these data into advocacy messages that will persuade others to join the cause. In between, our own values and linguistic framings of population-environment linkages will be gently be teased out, shared with the group through a series of interactive exercises and open discussion periods, after which we will be guided toward the "right" languages to use to advance the linked causes of women's SRHR, population stabilization and global environmental sustainability.

We will do so through a series of high-energy, upbeat workshops which open up debates that never include critiques of neo-Malthusian paradigms, never address race or gender from a critical perspective, never question the roles of power and privilege inherent in claiming to advocate for women who live hundreds, or thousands, of miles away. We will not address the power dynamics in the room either, acting as if race, class and gender have no role in our discussions of black and brown women's sexuality and reproduction. Instead, we will express a unity found in feminist ideals, activism, and a desire to do good work on behalf of women who are less fortunate than we. We will talk about how urgent the need for universal access to contraceptives, the shock and horror of fertility trends in other places playing across our faces as the training's facilitators read an endless stream of statistics. We will talk about SRHR as fundamental to empowering poor women around the world, particularly in Africa. We will hear that we are best positioned, as women, to help them achieve empowerment through advocating for their access to contraceptives through family planning policies and development projects.

Marisa works with GPEP's campus program, and is one of four facilitators for the day. Her vibrant energy is infectious, and I feel for a moment as if I am in a pep rally, as she opens the training with a loud, ebullient welcome. She is joined by Arna, another GPEP program staffer, and Francoise, a program manager at the feminist organization co-sponsoring the training. I remember from an earlier interview with Marisa that GPEP always collaborates with feminist and women's health organizations when they conduct their population advocacy trainings, both to gain access to the other organization's group of youth activists, and to demonstrate GPEP's progressive, woman centered focus. A few volunteers buzz around the room, hanging butcher paper from the walls, tossing piles of multicolored markers onto tables, and arranging neat stacks of program literature on the bright, shiny 'materials' table at the front of the room. There are posters proclaiming the importance of family planning for the health of the globe, and a brochure from a women's environmental organization that tells the reader that climate change is primarily a women's issue. Nearby, little pink pins cry, "THIS is what a feminist looks like!" Stacks of slogan-covered condoms and pens jostle for attention alongside handouts on an Afghan women's health campaign and a small tip sheet on staging die-ins on international women's day. We are given shiny dark blue folders, packed with many of the same materials from the information table, along with copies of the training agenda, extensive

biographies on the program facilitators, and an information sheet on deaths from unsafe abortion among Kenyan women. I also note that Marisa and a few young women around the room are wearing a Sierra Club t-shirt that says, "The Fate of the World is in Your Hands…And Your Pants."

At first glance, these materials seem disjointed and confusing. What do international die-ins have to do with population, environment and global SRHR? Are these materials simply thrown together, a messy hodge-podge of feminist health and other activist materials with no logical linkage to population-environment advocacy? Over time, and with repeated attendance at trainings, I realize that there are dual objectives of the materials: they ground population-environment trainings in a politics of feminist advocacy, before a single word is spoken by training facilitators. Handouts and other materials represent organizations, their politics and campaign slogans long before, and well after those organizations' representatives articulate messages and strategies during trainings. At the same time, they demonstrate an ethical stance toward international women's health and social issues. By participating in population-environment trainings, which the materials help to articulate as a feminist space, participants begin to participate in the process of becoming development actors.

These trainings are part of an ongoing series devised by the Sierra Club's GPEP program, in order to reframe the organization's position on population and SRHR, through a feminist approach emphasizing women's health, rights and empowerment. Marisa and Arna introduce the training by telling us that Sierra Club helps people enjoy, explore and protect the planet, and that they believe that global environmental successes will be short lived if environmentalists do not also address population growth. GPEP has a program mission to "protect the global environment and to preserve natural resources by advocating for global reproductive health and sustainable development initiatives". This is accomplished through collaborations in Sierra Club's efforts to increase access to voluntary family planning services, through advocacy for girls' and women's reproductive health and rights. Arna makes a point of stressing that GPEP does not force or impose family planning on anyone; rather, they focus on improving access to reproductive health services so that women and girls can make their own reproductive choices, as well as raising awareness about the impacts of global and regional resource consumption practices.

The Sierra Club website describes GPEP goals slightly differently, with a stronger emphasis on the importance of addressing population growth. The site argues that "If we are to achieve a more sustainable future, addressing the root causes of environmental degradation — including overconsumption of natural resources, poverty, and population growth — is paramount…The Global Population and Environment Program's mission is to protect the global environment and preserve natural resources for future generations by advancing global reproductive health and sustainable development initiatives." In other words, addressing reproductive health at a global level is a key strategy component of a larger objective: preventing environmental degradation, which Sierra Club sees as fundamentally caused by poverty, population growth and overconsumption of resources. While this framing represents a subtle reshaping of the purported population-environment linkages that gave rise to Sierra Club's publishing of Ehrlich's Population Bomb in 1968, it nevertheless communicates a fundamentally Neo-Malthusian view of environmental sustainability. Where does SRHR for women fit within this narrative? How does GPEP translate women's empowerment into a technical tool of sustainable development?

Getting the Facts: Family Planning in Social Context

> "The widespread adoption of family planning represents one of the most dramatic changes of the 20th century. The growing use of contraception around the world has given couples the ability to choose the number and spacing of their children and has had tremendous lifesaving benefits. Yet despite these impressive gains, contraceptive use is still low and the need for contraception high in some of the world's poorest and most populous places...Considered a "best buy" among health investments, family planning is one of the most cost-effective, high-yield interventions that exists today. Countries that invest in family planning can reap immediate health benefits, investment savings in the health and education sectors, and social and environmental benefits that extend well beyond a single generation." – "Family Planning Saves Lives" (Smith, et al. 2009)

According to much of the international development literature, family planning is somewhat of a wonder technology. Responsible for reducing unwanted fertility, it also slows population growth, provides women the freedom and room to pursue educational and income generating opportunities, and improves the health and life prospects of women and their children. At the same time, family planning is firmly situated within the realm of rational behavior: according to studies and reports, simply providing women with access to contraceptives will lead to their uptake and use; lack of use of family planning is most often due to lack of information or social and economic barriers precluding access to contraceptives; and once those barriers are removed, contraceptive use will increase (e.g. Campbell, et al. 2006).

Family planning refers to the use of a number of technological and other means prevent and space childbearing. In the international development community, methods constituting family planning include primarily Western contraceptives, including oral contraceptive pills, hormonal injectables, subdermal implants (such as Norplant), intrauterine devices (IUDs), male and female sterilization, male and female condoms, diaphragms and spermicides. Additional, non-technology based methods include the Lactational Amenorrhea Method[13] (LAM), the rhythm method (recently translated into a technical approach known as the Standard Days Method[14]), and symptom based methods focused on tracking changes in cervical mucous and basal body temperature. Emergency contraception and abortion are also components of comprehensive family planning, designed to provide effective back up systems to women whose primary contraceptive methods may have failed.

In the U.S., family planning has played a prominent role in the mainstream political debates over women's sexual and reproductive health, in that contraceptive research and access, and secure legal rights to abortion have been central issues at the heart of feminist organizing. At

[13] LAM refers to the postnatal infertility that occurs when a woman is breastfeeding. While it is not a technical intervention, LAM is included in the standard package of family planning services in international public health organizations.
[14] The Standard Days Method is also non-technical, however global health organizations such as the World Health Organization (WHO) have technicalized it by developing tools for counting days, as well as including SDM in standard packaging of family planning services.

the same time that hard won reproductive rights were being achieved for many women in the U.S., those same rights were being eroded for American women of color, and those in global south countries, under the same banner of birth control (Roberts 1998; Davis 1983). The difference was subtle, but important: for middle class American women, birth control access was expanded in the name of opening up increased social freedoms for women. For poor women of color in the U.S. and the global South, this access was often expanded under an agenda of population control (Connelly 2008).

Rather than occupying a space of shared ground for women's organizing across social groups, the topic of birth control has served as a site for social and political fracturing within the women's movement in the U.S., primarily along race and class lines. Advocacy for "voluntary motherhood" in the late 1800s radically challenged what was seen at the time as men's right to have their sexual and reproductive urges fulfilled by their wives at all times (Davis 1983). A century later, calls for access to safe, effective contraceptive methods and legal abortions were no less politically contentious, however they had gained broader ground within feminist organizing, such that access to birth control, including abortion, had become a central issue in mainstream women's rights organizing. At the same time, the focus on birth control exposed deep tensions and hostilities within the women's movement, exposing the racial, religious and class-based fault lines around which birth control debates have historically been organized.

In her widely influential work, Women, Race & Class, Angela Davis argues that the mainstream abortion rights movement in the 20th century failed to attract much support from poor women of color, in part because of race- and class-privileged perspectives underlying the "ideological underpinnings of the birth control movement itself" (Davis 1983: 203). Historically, African American and other women of color in the U.S. were more likely to seek illicit abortions, a trend that carried over into higher rates of abortion after the procedure became legal in 1973. As Davis argues, this is reflective of deep historical trends in which African American women have traditionally sought abortions as a response to social conditions of deprivation and misery, from the period of slavery through welfare reform. Yet, women of color were often conspicuously absent from much of the organizing for access to abortion and birth control rights, despite a clear long term demand for methods of effectively managing their fertility. While many white feminists attributed this resistance to a lack of consciousness, or lack of desire to engage in social movement organizing across racial lines, in fact the resistance was rooted in the fact that women of color faced a very different landscape of access and control regarding fertility management. Where middle class white women were struggling for the right to limit their fertility, Black women and other women of color were fighting forced sterilization and other imposed means of coercive fertility regulation (Silliman, et al. 2004; Nelson 2003; Roberts 1998). In other words, for women of color in the U.S., the struggle for birth control rights has been a struggle to maintain reproductive autonomy, both in the context of the right to bear children as well as the right to avoid bearing them. A narrow focus on controlling and limiting one's own fertility, long fought for as a "right" for middle class white women in the U.S., has historically been imposed as a duty on women of color.

Section II: Knowing and Representing Others

Back to Class: An Avalanche of Numbers

Back at the Green-Pink advocacy training, Francoise launches into a dizzying array of statistical data. She tells us that our global population stands at approximately 6.8 billion people, after doubling in the last 40 years. Being that this is the fastest rate of population growth in world history, we have been in the midst of a crucial global period of rapid global population growth, with severe consequences for the health and lives of women around the world. Over 200 million women in the world want to delay or stop childbearing but don't have access to family planning, including married women[15]. One woman per minute dies from complications due to childbirth, totaling at least 530,000 women every year. Ninety-nine percent of these women die in developing countries, and their deaths are preventable through family planning, safe motherhood kits, and safe abortions. I look around the room, noting that the students seem to be shocked and outraged by the information Francoise is sharing. To my surprise, however, none of them attempts to verify the information she shares, despite the fact that several participants have their wifi-connected laptops powered up for note-taking.

Older trainees seem to be unfazed by the numbers. As regular participants in these trainings, they are familiar with the statistics and somewhat anesthetized to the striking disparities in life prospects they represent. Francoise continues, sharing statistical differences in likelihood of death during childbirth for women around the world. The figures are 1 in 2500 in the U.S., 1 in 6 in Afghanistan. In Sweden it's 1 in 25,000. In Africa, the figure is somewhere around 1 in 16. "What's the number one factor determining how many children a woman will have in her lifetime?" she asks, looking around expectantly. A few scattered participants mumble the word "education". "Exactly!", Francoise shouts triumphantly. Education is a crucial component to protecting women's health, preserving lives and empowering our global South sisters, she tells us. With education, the shocking statistics we've heard at length would no longer accurately represent the health status and life chance scenarios of women around the world.

Meanwhile, Arna adds some environmental statistics to the mix. She tells us that over the past 5 years alone, we've lost 91 million acres of the world's forests, and 76% of the world's fish stocks are already or nearly depleted, and that it would take several earths to sustain consumption levels at the rates enjoyed by developed countries. Emphasizing the role of resource consumption in environmental degradation, she notes that the United States contains 5% of the world's population, while consuming 25% of practically every natural resource, giving us a unique responsibility to promote responsible environmental action in our communities and around the world. Summing up her presentation, Arna notes that both consumption practices of the wealthy and the population growth of the poor are the major drivers of significant environmental change around the world, requiring interventions in both arenas in order to produce long term, positive environmental changes. As such, she states, this training is crucial to make the linkage between slowing population growth and environmental sustainability, through increasing access to SRH services for women in global South countries.

[15] Known as the 'unmet need for family planning', this measure expresses the gap between sexually active women's sexual behaviors, and their expressed desires not to have additional children. It is a quantitative measure derived from Demographic and Health Surveys (DHS), which collect data on fertility rates, reproductive health, maternal and child mortality, HIV/AIDS and immunization and nutrition.

After setting up the problem on a macro scale, the facilitators begin to transition into pinpointing specific problems to overcome in achieving women's SRHR. Francoise takes the floor again, asking us why reproductive health care is such a big issue. "What are some barriers to accessing reproductive health services around the world?", she asks. Participants shout their answers, which Marisa writes on a piece of butcher paper at the front of the room:

- Religion

- Health care reform

- Tradition and culture; science is good, but a lot of people have really good reasons why science isn't enough to get them to a lot of people have good reasons why they can't address this.

- Money

- Male preference [facilitator says this can also be translated into "femicide"]

- Lack of knowledge, or misinformation [facilitator translates into "lack of education"]

- Child marriage

- The Catholic Church has too much power within governments

- Gender based violence

The answers listed on the poster reflect the complex nature of how reproduction is understood and made meaningful in the world to American youth audiences. However, the numbers and broad categories are incomplete without a human face. After all, population and women's fertility are about women's bodies and women's lives. In order to foster a clearer connection between "the problem" and the advocacy "solution", we need to see images of those whose lives will be improved.

Knowing and Representing Others

A poster handout sits at the back of our program materials. It is striking in its minimalist text, which asks in megabold font, "What does population have to do with the environment?" When opened to full size, a contrasting set of images and textual references suggest the answer. The words "children", "water", "women", "deforestation" and "biodiversity" are distributed over a set of images of cars in traffic, polar bears surrounded by encroaching fire, an urban landscape, and the earth as seen from space. There are only two images depicting human beings: one is of a white woman frolicking with her baby in an open rural landscape, surrounded by lush greenery, smiling ebulliently. The other image frames six black women, presumably African, clothed in varying combinations of Western clothing and wrap cloth covered in African print. They huddle around a community well, each taking turns hauling up buckets of water which will fill the galvanized steel basins on the ground around them. Several of the women carry babies on their

backs. The landscape cannot be seen; the image is literally filled up with women, babies and the depleting well. Beneath this image, a single word is offered in answer to the question posed on the poster's cover; one word to tie together the jumble of images and themes scattered across the foldout: "Everything". Population has everything to do with the environment, a message that serves as the focal organizing framework for all population-environment advocacy trainings.

It is June 2010, a year after the Green-Pink training, and I sit in a San Francisco conference room at the national headquarters of the Sierra Club. This is another two-day training designed to create a cadre of population-environment advocates; unlike previous trainings, youth are not the sole target audience. This time, the training's purpose is to broaden the potential base of support for GPEP within and outside of the organization; GPEP staff are hoping to cull more support for population advocacy among Sierra Club staff, as well as student and community activists. The A/V system is powered up, and the powerpoint presentations are in full swing. We view images of the earth, of Humvees and smokestacks pouring potential climate-changing gases into the atmosphere; we look at time series photos of wide swaths of land in Madagascar and Ethiopia, demonstrating the rapacious pace of deforestation. More specific statistics are lobbed at us: 90% of Madagascar's Eastern forest has disappeared; the average Malagasy woman has 5 children[16], and lives in grinding poverty; Ethiopia's population will double by 2050, reaching 173,000,000 people[17]. Unlike previous trainings, these numbers are accompanied by compelling images, and personal stories of direct contact: some participants in today's training have visited communities in Ethiopia, Madagascar and India on GPEP "study tours", and have come to tell us about them. Study tours are organized in conjunction with Sierra Club's partner environmental organizations that operate programs overseas, and typically take activists to visit integrated population-health-environment programs[18] in order to observe how they function on the ground. A Sierra Club website describes study tours thus: participants "learn about the connections among environmental conservation, population growth, and access to voluntary family planning services. Upon their return, they become pro-active messengers in their communities in support of international family planning and sustainable development policies. These trips provide dedicated population activists with the opportunity to experience first-hand some of the very programs for which they have advocated for years."[19] What the site does not say is that these tours serve as a crucial recruitment tool for advocacy efforts: being able to connect statistical data to images and stories of on-the-ground population-environment work is seen as a key piece of gaining and sustaining advocates' enthusiasm[20].

Renée, a white woman member of a Southern California Sierra Club chapter, clicks on the presentation from her week-long trip to Madagascar, taken several years prior. An image of a rural village, surrounded by terraced rice fields and homes made of mud, dung and spindly tree branches, sits on the screen. The next image is of a Malagasy family, in tattered and soiled rags, hair unkempt. A haggard woman is surrounded by children of various ages, some of whom hold smaller children. The smallest baby is an infant, his face smudged, mucous streaming from his nose. Several murmurs are heard around the room; apparently, the picture has struck its intended chord of exemplifying abject poverty. Renée talks about how women in communities like this

[16] CIA World Fact Book: https://www.cia.gov/library/publications/the-world-factbook/fields/2127.html
[17] Population Reference Bureau, Data by Geography: Ethiopia Summary
http://www.prb.org/DataFinder/Geography/Summary.aspx?region=38&region_type=2
[18] Explain PHE
[19] "Population, Health, and Environment Study Tours": http://www.sierraclub.org/population/studytour.asp
[20] Interview with GPEP employee.

one have few choices to limit their childbearing, due to poverty, lack of education and gender inequality. “Because they are poor, and don’t have education, women have a lot of babies”, she says, concern evident in her voice. She follows with a few comments on the power and promise of international family planning: when given access to tools, women and men choose to limit the size of their families, which has a ripple effect in other areas, including women’s empowerment and the environment. “If there were fewer children in this family, their parents would be better equipped to provide them with healthy, nutritious food”, she tells us. “The girl children could go to school if their parents had more money for school fees.” During a brief, facilitated question and answer period following Renée’s presentation, participants mainly focus their questions on the conditions in the village and her impressions of the poverty there. I am struck by the lack of critical reaction to the images in the presentation, and the realities they are assumed to index. Yet, my surprise is tempered as respondents indicate, over and over again, that the ‘reality’ on the screen is unmatched in their lives by any direct experience. Moments like this are where development issues become salient to this group of activists, attaching vague ideas like population growth, environmental degradation, and unmet need for family planning to individual women’s lives and bodies. In the absence of other knowledge of the conditions depicted on the screen, this forms a crucial moment in the process of making the young development actor.

Central to advocacy practices like those of Renée are specific strategies of representation, including the production and dissemination of images, statistics, stories and other ‘facts’ that serve to reinforce a narrow concept of global South women as target audiences available for development interventions. In the case of population-environment advocacy, contrasting images circulate, producing notions of women’s fertility in different regions of the world as both radically different, and yet potentially universally the same. Statistical data on individual fertility trends, photographic images, stories of “on the ground” conditions and demographic models depicting rapid population growth are all invoked to reinforce the belief that the fertility of women in global South countries, particularly Africa and Asia, is different from that of women in the U.S. Ironically, at the same time, this data is also invoked in the same conversations as evidence that women’s fertility *could be* universally the same, with the same ideal outcomes of low individual childbearing, given development interventions including women’s education, universal access to contraceptives, and women’s empowerment.

The images in Renee’s presentation are an example of a long standing practice in the development community: that of using visual imagery to stand in as a representation of population growth and poverty in the global South. Ranging from pictures of large, teeming crowds, mothers surrounded by babies, cartoon drawings of hordes of people hanging from the edges of a beleaguered earth, and masses of dark bodies swarming around food aid bags, these images have become well recognized icons that represent the ‘population problem’. In the 1960s and 1970s, these images were often seen on the covers of popular magazines and full page spreads in newspapers; today, they are the iconographic focal point of advocacy materials and special issues of environmental magazines [Illustration 1]. Yet the basic message of the images remains unchanged over the course of time: populations are still growing, but they are only certain populations: people of color, often overwhelmingly poor and foreign [Illustration 2].

Illustration 1: Popular U.S. Media Images of Population, 1960-1980

Illustration 2: Image Accompanying National Geographic special issue on population, 2011

At the same time, images of other people in other places serves to decontextualize bodies and histories, lifting them out of time and space. These images become reference points for a set of abstract ideas, grounded through the stories told by the storyteller, and de-linked from the material conditions of those being viewed. How do representation practices come to encode abstract ideas about bodies as objects of intervention?

In his analysis of the media-driven consumption of violence as public spectacle, Feldman (1994) argues that, "generalities of bodies- dead, wounded, starving, diseases and homeless- are pressed against the screen as mass articles. In their pervasive depersonalization, this anonymous corporeality functions as an allegory of the "elephantine", "archaic", and violent histories of external and internal subalterns" (1994: 407). The term anonymous corporeality is an appropriate one here; when bodies and their movements, activities and being in the world are reduced to representations of anonymous masses, their corporeality is emphasized even as it is rendered anonymous, inaccessible, and irrelevant to any specific set of conditions or contexts. Malkki (1996) has analyzed the mass circulation of images of refugees, arguing that these images serve as a form of standardizing representational practice which works to dehistoricize and decontextualize specific refugee experiences. She argues that "mobile representations are often very easily translated and shared across nation-state borders" in ways that serve to systematically silence those who are depicted (1996: 386). As a result, visual representation comes to serve as a "singularly translatable and mobile mode of knowledge" in which "pictures of refugees are now a key vehicle in the elaboration of a transnational social imagination of refugeeness" (387). Particularly in images depicting large groups of people, a spectacle of "raw", or "bare" humanity, individual stories become irrelevant as images come to speak for themselves as representative of a particular category of person: "in their overpowering philanthropic universalism, in their insistence on the secondariness and unknowability of details of specific histories and specific cultural or political contexts, such forms of representation deny the very particulars that make of people something other than anonymous bodies, merely human beings." (1996: 388-9).

Mobile images of mass depictions of humanity also preclude any understanding of politics, economics and power. This is particularly salient in the context of pictures depicting 'population', 'population growth', or 'the population problem'. When 'population growth' is reduced to a flat, two-dimensional image, it is abstracted from any context within histories of colonization, or contemporary webs of relations in which global capitalism and patriarchy give rise to conditions that maintain population trends. At the same time, race and gender remain unproblematized in these images: population growth is the domain of the poor, and the racially coded. Masses of black and brown bodies, proliferating rapidly and filling up crowded images of urban chaos, mark a striking absence- that of white bodies. In the racial politics of population images, the 'crisis' invoked by the anonymous corporeality typically on display is one of a world which is rapidly filling with poor people of color.

African sexuality in particular has historically been characterized by non-Africans, from missionaries to various colonial authorities and beyond, as diseased, pathological, and radically *other* (Arnfred 2004; Hunt 1999; Comaroff 1993). These characterizations have served as justifications of interventionist projects designed to "normalize" African sexual relations to reflect European norms of sexual propriety, morality and self control. Under colonial regimes, the fertility of African women in particular was targeted as a specific site of intervention, both

for the production of a large labor force in the service of colonial resource extraction, as well as in mechanisms designed to reshape African attitudes toward science, technology and modernity associated with hospitals and birth technologies (Hunt 1999). These projects utilized a variety of social inducements to promote population growth, actively eroding grounded practices designed to manage and limit fertility through non-technological means. Recent scholarship has sought to rethink African sexualities in their various forms, simultaneously asserting the banality of African sex and reproduction and arguing for an attention to the specificity of African forms of social exchange that are pervasive in sexual relationships and which produce and reflect grounded systems of social connection, community and responsibility (e.g. Arnfred 2005).

Madagascar in particular is described as a global biodiversity hotspot, possessing a wealth of natural resources characterized by scientists and development 'experts' as treasures belonging to the global domain. As a result, pervasive neo-Malthusian assumptions of population pressure on natural resources infuse conservation projects, focusing on strategies designed to limit population growth, with strong government support (Harper 2002; also see Ravalomanana 2006). These approaches dominate international development work in Madagascar, often attempting the recalibration of value associated with children and family in relation to plants and animals, frequently with coercive results (Feeley-Harnik 1995). In a material sense, coercive attempts to limit population growth in Madagascar are a matter of life and death. Harper's 2002 study of integrated population-health-environment development projects in Madagascar demonstrates the role of subtle coercion infused into population and family planning programs designed with environmental conservation objectives in mind. As her work demonstrates, when projects mobilizing concerns over international expertise, resource conservation and social control converge on fertile bodies, the political importance of 'voluntary' family planning is subverted in the service of larger environmental agendas.

Section III: Justice for All?

Engaging Youth, Making it Just

The issue of justice came up at various points throughout several Sierra Club population-environment trainings that I attended. When Marisa attempts to situate population-environment advocacy in historical context, she describes population control efforts in the 1960s, arguing that responding to population control is an element of RJ activism, which focuses on "making sure that everyone can exercise full capacity to determine when, where and how to reproduce". But is this in fact what Sierra Club is advocating? And is this what RJ is all about? In fact, the central focus of their youth campaign is "justice"- which, although never defined, becomes vaguely associated with addressing inequalities such as gender inequality, inequitable resource distribution, access and use in the global South. In early 2009, the GPEP campus youth campaign took a turn toward engaging with social justice frameworks when it launched the "Population Justice Environment Challenge", a strategy drawing on environmental justice and RJ frameworks to describe the benefits of international family planning and population stabilization. The campaign partners with women's, youth, population and family planning organizations to train youth as lobbying activists on a host of sexual and reproductive health and rights (SRHR) policies, primarily focused on increasing Congressional allocations for international family

planning. Why focus on youth in particular? What strategic role could they play in advancing population-environment advocacy approaches, many of which were initially developed long before they were born?

Why Youth? Population-Environment Advocacy Goes Back to School

A glance at the program website makes it clear that Sierra Club's approach to youth, SRHR, population and environment is rooted in an emphasis on rights and justice rooted in personal responsibility and individual management of sexuality and fertility. Adopting an activist tone, the site admonishes that "now is the time for students and youth leaders here and around the world to stand up and demand that their rights be respected, and that they have access to safe and accurate information about sex, voluntary family planning services, clean air and water, and renewable energy!" The campus campaign is more than an information and awareness campaign, though; through a national training in Washington, D.C. and bi-annual youth summits, campus based "sex and environment" workshops and a national book tour, the campaign is designed to "recruit student leaders, and train them with the information and skills necessary to advance population solutions." Trainings and other campus activities are well supplemented with ongoing resources, including "interactive tabling materials, posters, fact-sheets and tool-kits", designed to help students "truly make a difference on their campuses and in their communities."

Why focus on young people? When global population stabilization first emerged as a key component of the American environmental movement in the 1960s and 1970s, college youth in the Zero Population Growth movement were a key constituency in mobilizing grassroots population control advocacy efforts (LIFE 1970). However, decades have passed since global population issues were in the forefront of American media messaging on environmental sustainability. Why focus on youth organizing for population-environment advocacy today?

GPEP program documents argue that engaging youth activists is a necessary strategy for changing U.S. policies that impact youth around the world. Linking youth activism to family planning, it argues that information and resources on sexuality and reproduction enable young people to "make empowered decisions about their lives", as well as to "speak out for sustainable family planning and development solutions here and abroad". Summing it up in a youth empowerment and responsibility lens, the website concludes that "Young people must have a voice and a seat at the decision-making table when it comes to ensuring the health of their own bodies, and the planet!" Arna reflects some of this same approach during an interview, arguing that the issues GPEP is advocating for will primarily affect youth in the long run, such that it makes sense to support and foster the leadership potential of youth during training efforts. "Half the world's population hasn't entered their reproductive health years yet…and given the political environment today, we have engaged youth and it would be a pity not to maximize their potential." GPEP also recognizes the current moment as offering a prime opportunity to draw on young people's access to technology and social media to disseminate messages and mobilize advocacy efforts quickly. "Classes and the web make information available in ways that it hasn't been before", she noted. "The world is so different from when I was a college student. Technology has advanced rapidly, and the approach is very different…I think technology has an important role; we're getting exposure, and the media is so different than it used to be. In the

digital age, in some regards, people get exposed to things differently. When we talk about water being an issue, they (youth) can immediately go and look up images. So we have to draw on their strengths and maximize them."

Another manager at Sierra Club, who has had a long career in population-environment advocacy work, explained that meeting youth where they are and building on the issues that are most interesting to them is a key part of Sierra Club's strategic approach to engaging young activists. "Within the Sierra Club, youth activists self define not as environmental activists, but as climate change activists, and are interested in a right-based approach", he noted. He argued that engaging with youth and drawing on their environmental interests and technological savvy is an important approach to advancing the GPEP agenda:

> "Climate change is the main point of entry for most youth. Children are hearing a broad, general sense of urgency around environmental issues. Younger kids are more aware of climate change; it is talked about in schools, they're seeing images related to Hurricane Katrina, they've heard of Al Gore and seen his movie…and social networking websites are a major force. They play a key role, but not so much on population issues though. Studies have shown the role of texting internationally as a mobilizing force around political issues. Technology today is a powerful political tool; it became a toolkit for mobilizing around population and environment issues at the community level in the Philippines, and they're currently ahead of where we are in the U.S. on this issue. We should be able to draw on those same approaches and strategies, because youth have a stronger sense of an interconnected world. After all, the population message is cross-cutting, and can easily be couched in terms of quality of life, efficiency, etc."

An interview with Marisa revealed that individual priorities and personal politics within program leadership played a significant role in developing the youth-based approach, including its increasing focus on justice:

> Jade: How did the youth program's new focus on Population, Justice, and Environment Challenge get started?
>
> Marisa: The PJE Challenge arose under the leadership of a former employee at GPEP, who I used to work with. Together, she and I broadened the messaging framework around population-environment connections for youth, specifically linking in justice issues. And under [our Director at the time], we began to look at domestic issues too, like increasing funding for comprehensive sex education. We also broadened our approach to looking at consumption issues within a justice framework, including reaching out to work with environmental justice partners. I started working more with RJ groups, like Choice USA, and others.
>
> Jade: Why focus on justice? What do SRHR and justice have to do with global population and environment?
>
> Marisa: A lot of it really is looking at who's consuming resources, who's able to develop, and I think looking at models of development. That's a broad answer but

> ultimately we've got our program into a place where the message is really good. And I think [a colleague], with her project on population and justice, everything sort of clicked. So we attended her first book strategy meeting in January of 2008 and I think that's really where the idea sort of sparked around what does population justice really mean, and how does sort of adding the word justice not just sort of make people feel comfortable with these issues, but also to help them question their values, on these complicated issues. We brought her in strategically at every stage. We had her speak at our One Voice summit last year, you know, and she really framed the whole conference in that frame of justice and equity, and I think the youth really appreciated it and appreciated the issues. And the millennium generation is really craving synergies. They see how these issues overlap, and that sort of messaging goes really well into bringing issues together and also uniting environmental groups with women's groups, women's health and rights groups, which environmentalists haven't always had the best relationships with.

When thinking about how the Sierra Club and some of its partners use the term RJ as a matter of strategy, I am immediately struck by the ease with which population-environment advocates are able to harness and absorb competing strategies and frameworks, including those that were developed in direct opposition to the approaches they promote. RJ language provides a prime example of the politics of linguistic co-optation, as demonstrated through my attendance at RJ workshops, particularly a national conference organized by the group of organizations that developed, and continue to claim ownership of, the term.

Owning Justice? RJ at the Borders

"Anything done about us, without us, is not for us."- Loretta Ross, National Coordinator, Sistersong RJ Collective

It is the fall of 2009, and I attend the Annual Meeting of the Sistersong Reproductive Justice Collective[21] at the plush Capital Hill Hotel, a few short blocks from Union Station in Washington, D.C.. Joining several small clusters of African American and Latina women ranging in age from mid- teens to late 50's, I rush toward the hotel ballroom, conference tote bag, folder and handout materials in tow. There are over 400 women in attendance at this meeting, and while it is a multiracial crowd, the majority of those in attendance are African Americans and other women of color. The energy in the room is particularly warm, effusive, relaxed and informal. Participants are welcomed ebulliently, to which they respond with frequent bursts of applause and cheers. Looking around, I see women of all ages, from late teens to mid-seventies, with no particular age group in predominance. There are activists, program managers and practitioners at community based clinics, students, academics, and a small sprinkling of donors in attendance, visiting the vendors booths to look at materials and milling around the hallways, grouped in small clusters.

[21] The organization's national coordinator announced a name change at this meeting, from Sistersong Reproductive Health Collective.

Despite the festive vibe, I have begun to feel some level of conference fatigue. This is the fifth sexual and reproductive health (SRH) advocacy training I've attended in the past six months, and after a while some of the messages and vocabulary start to run together. Contraceptive access, abortion rights, women's autonomy and empowerment, RJ, the centrality of policy and the importance of Congressional lobbying are all emphasized, just as they have been in Sierra Club trainings and other population-environment advocacy events. By now I've heard this language enough times, witnessed the whipping up of activist fervor around recent small-scale policy victories and the moans of despair at Congressional votes on women's health services legislation. Regardless of thematic focus, conferences organized around women's SRHR share a common parlance, and a common sense of urgency: women's rights are under threat, must be expanded and protected, and we, the women in the room, must work at the forefront of protecting our and other women's access to high quality reproductive health services. The Sistersong meeting is no different.

However, this is where the similarity ends. Despite its focus on SRH organizing, the Sistersong conference is unique in its explicit focus on articulating concepts of RJ through the lenses of human rights, intersectionality and a focus on responding to racialized reproductive oppression. Race, class and gender are at the heart of Sistersong's analyses, and the critique of intra-movement dynamics within SRH advocacy is a key component of how and why the framework developed. At a keynote lunch speech, the speaker articulated the intersectional framework that defines the core principles of RJ, which focus on protecting women's rights to: 1. Decide whether and when to have a child and the conditions under which one will give birth; 2. Decide not to have a child; and 3. Parent the child with the necessary social supports in a healthy and safe environment. She noted that RJ is also situated within a larger framework in which movement building is linked to legal advocacy and service delivery. Through this lens, RJ (movement building), reproductive rights (legal advocacy), and reproductive health (service delivery) are inextricably linked. As the speaker emphasized again and again, the concept of RJ is predicated on the interrelationship of all three approaches, including the direct rejection of all attempts to erode the rights of women, particularly women of color and the poor. In a powerful moment, she shared a personal experience of coerced sterilization, arguing that population control is alive and well in the lives of women of color and low income women today. In a context in which the ability to give birth and parent children is not assured, she argues, contraceptive access and abortion rights are not the primary issue- rather, the ability to make autonomous decisions based on a foundation of human rights is.

I am struck by how strongly this set of definitions explicitly diverges from the use of the term RJ employed by Sierra Club and some of their partners. Mainstream, primarily white SRHR organizations focus primarily on contraceptive access and abortion as starting points for articulating the need for women to make effective decisions and manage their own fertility, yet they utilize very similar languages around reproductive health, rights and justice for women. How did the two movements diverge, and how are they able to organize under the shared banner of RJ?

The difference is one of defining, articulating, and mobilizing for a movement of self determination, rather than a focus on the rights and lived experiences of others. In empowerment discourses, those others presumably do not speak for themselves, and need powerful actors to

equip them with the necessary tools of power. Who leads struggles for empowerment, and who leads struggles for justice? In the RJ movement, the justice framework was first articulated in response to forms of reproductive oppression disproportionately affecting women of color, specifically population control policies, limited access to information and education on sexuality and reproduction, anti-abortion policies, and criminalizing the fertility of immigrant and incarcerated women (Silliman, et al. 2004; Nelson 2003). The intersectional perspective linking race, class and gender was developed in the 1960s and 1970s by women of color activists as a model for addressing how multiple forms of oppression often determine the reproductive choices and outcomes of women of color in ways that often do not impact white women (Nelson 2003; Davis 1983). In other words, all women do not experience SRH policy and practice in the same way. Access to SRH services, and the ability to exercise autonomy around sexual and reproductive decision making, is heavily impacted by race and class in the U.S., which leads to vastly different prioritizing of reproductive health issues, services and values. Because the RJ framework is based on an integrative approach recognizing that multiple oppressions exist at the same time, it challenges single-issue organizing and addresses multiple identities in ways that cannot be accounted for in population-environment advocacy because of its emphasis on complexity and critical structural analysis (Ross 2006).

At the Sistersong training, a panel session was offered on the topic, “Intersections of Environmental Justice and RJ.” The session’s speakers, all women of color, focused their comments on drawing connecting between differential exposures to toxic pollutants, contaminated food, soil and water, and waste facilities disproportionately sited near communities of color and the poor. Articulating a clear linkage between environmental justice and RJ, the panelists argued that communities of color, and women of color in particular, experience significant reproductive impacts due to environmental exposures, thus making environmental issues a necessary component of contemporary RJ activism. At the same time, panelists were clear to draw the boundaries between what they viewed as the critical, intersectional work on which RJ was founded, and work that served opposing SRHR agendas. One panelist in particular made strong references to the work of population organizations, like the Sierra Club, arguing that these organizations co-opt the languages of RJ to mask ongoing population control agendas. She linked her comments to broad scale structural concerns, identifying militarism as a key driver of global environmental degradation, climate change, and reproductive injustice, before urging a move away from “blaming poor people and their reproduction for environmental problems”.

Do mainstream SRHR and population-environment advocates co-opt the languages of RJ, or are they simply borrowing effective frameworks? In 2009, a book entitled “A Pivotal Moment: Population, Justice & The Environmental Challenge” (Mazur 2010) outlined the new concept of population justice, on which the Sierra Club’s youth GPEP trainings are based. The book’s opening chapter describes population justice as both an “ethical compass”, and a framework for “understanding- and acting upon” population growth, climate change, and global scale social and economic inequality from a justice based approach. But what understanding of justice does this framework embed? Reading further, it becomes clear that the notion of population justice is defined as drawing in part on environmental and reproductive justice frameworks, as a means of focusing attention on the “inequalities- both gender and economic- that underlie both rapid population growth and the destruction of the natural environment” (Mazur, 17). Readers are urged to take a “broad view” of population-environment linkages and calling for nuanced approaches to understanding the roles of demographic trends, resource

consumption patterns, and social inequalities in producing environmental problems at local, regional and global scales. Key to this endeavor is producing international development policy and program solutions that recognize social inequality as a key component driving continued population growth in the poorest countries of the world.

Most intriguing about the notion of population justice are the slippages and erasures that result from its production as a development framework. Even as it engages the *terms* environmental justice and reproductive justice, it completely elides any critical approach to exploring the role of racialization and racial inequality in conceptualizing and intervening in the population-environment nexus. Instead, it harnesses a vaguely defined notion of justice as oppositional to inequality, eschewing analysis of the racial injustices that these frameworks were mobilized to undermine. The explicit lack of analysis of the role of race may in fact be at the heart of why population justice is gaining ground among population-environment advocates, given that race is an arena of controversy that many development organizations seek to avoid. However, adhering to the language of justice, along with the associated linkages to women's rights, empowerment, and health, has been effective at maneuvering the image of population work out of its more controversial associations and into the more positive, woman-centered approaches necessary to attract youth adherents.

Conclusion

This chapter has described the ways in which women's fertility in the global South is made known to American population-environment advocates, particularly college youth. Particularly striking are the vastly different ways women's health activists characterize this knowledge, both in terms of defining sexual and reproductive priorities, as well as the language frameworks used to describe them. Ultimately, as with other development interventions, international family planning advocates circulate knowledge that views women's fertility through the lens of scientific and technical interventions. However, what is unique about this development sector is the ever-widening scope of strategies used to advocate population-environment linkages, including rendering women's empowerment discourses into technical interventions as well as articulating a justice perspective that eschews intersectional analysis. Despite this broadening scope, race remains outside the boundaries of population-environment messaging. The next chapter explores this question more fully, investigating the history of racial controversies in population-environment advocacy, and the enforced production of silence on race in current strategies.

Chapter Four

Navigating Controversy: Race in American Population-Environment Advocacy

"The focus [with population-environment advocacy] is now on justice and rights, and everyone wins. No one talks about population control anymore…so I'm not sure why environmental groups that address population growth are mostly white. Is it that there's something about these issues that strikes people as racist?"- White NGO manager of a population-environment advocacy program

Introduction

In this chapter, I explore the ways race emerges as a point of controversy that operates as central to environmental NGOs' efforts to develop new responses to population growth in the U.S. and the global South. This chapter explores the micropolitics of population work done by environmental organizations by highlighting the shifting dynamics of population advocacy. Specifically, I explore the ways population advocates' attempts to keep the population-environment 'movement' alive in the face of ongoing controversy, through efforts to recast advocacy as a socially progressive movement.

Historically, charges of racism, eugenics and genocidal intent have been leveled at population-environment advocates (Liagin 1996). Although sensitive to these charges, members of the network almost never make reference to race in their advocacy messages, opting instead to recruit activists of color to provide evidence of a lack of racial bias in population-environment activism. At the same time, the network has continually adapted its messaging to incorporate ideas of social and environmental justice, framings which attempt to position advocacy efforts in the realm of progressive social movements. This chapter pays close attention to the practices through which members of the population-environment network work to actively erase race as a relevant category for thinking about population-environment practice. My analysis reveals the ways these efforts are designed to effect a clear break between contemporary advocacy practices, and the 'dark' past of coercive population control.

While this chapter situates race in contemporary population-environment debates broadly, I enter into these debates through a focus on the Sierra Club as a case study. The organization also occupies a particular position as a lightning rod of racial controversy in U.S. population-environment debates due to a series of attempts to define an anti-immigration stance within the organization over the past two decades. Because Sierra Club is situated within an advocacy network of organizations operating population-environment programs, their work has deep reverberations throughout the network and serves as a key focal point for understanding broader network politics.

This chapter argues that racial narratives are deeply embedded in American environmentalist approaches to international population policy advocacy, and to the concept of global population growth as an environmental problem more broadly. These narratives manifest in a variety of ways. At the same time that population policy advocates construct knowledge of

racialized bodies as environmental problems, they also occupy engage frameworks in which advocacy projects are defined as socially progressive. As such, racial 'others' simultaneously come to represent both population 'problems' as well as strategic solutions for ENGOs engaged in population work. The core argument of this chapter is that population-environment advocacy network actors manage the multiple threats posed by racial controversy through several overlapping and conflicting strategies: ignoring, denial and selective embracing. In what follows, I explore the ways in which population-environment advocates selectively deploy these practices in the context of broader efforts toward racial openness and progressiveness, in hopes of defusing race-based critiques.

Section I: Race, Population-Environment and Advocacy

Over the course of conducting interviews with members of the population-environment advocacy network, I spoke with a seasoned advocate who had long been committed to the project of global population stabilization. We spoke at length about population-environment organizing in the U.S., the twists and turns of public sentiment on family planning, and generational differences in environmental priorities. When I asked him about the factors that have driven shifts in the popularity of population advocacy among American environmentalists over time, he unexpectedly turned the conversation to race:

> "Starting in the 1960's and 1970's, there was the climax of hope and expectation that empowerment, access, etc., would lead population to become sustainable spontaneously. Then two things went wrong: first, immigration, with the whole Sierra Club controversy. It was a *huge* problem within the Club. It was really, tremendously scary. It happened at the same time that environmental organizations started being criticized for being non-diverse, full of elite whites, and for not addressing EJ issues…this played into population-environment issues because we're measuring and studying racial, ethnic, and financial differences in population growth and decline among groups. Suddenly it became extremely sensitive to talk about population. Well meaning groups today do not address population. It's just not a part of the progressive movement because it's too freighted with ugliness, including racism and anti-immigrant sentiment. Too many good causes are not associated at all with thinking about human numbers."

Similar racial anxieties animated my conversations with a number of population policy advocates, who expressed a desire to both relegate racial controversy into the "dark past" of population control, and focus on new approaches to population advocacy based on social justice. During these conversations, race emerged over time as a complex and contradictory element of population advocacy, regularly invoked in cautionary tales about the thorniness of American racial politics, as well as a marker of advances in the development of progressive thinking and strategizing on international population advocacy. At the same time, race was often described as a social problem that is *external* to the relationships between population, environment, and international population policymaking.

Yet, as Halfon (1997) notes, "whether population policies coerce or persuade or merely provide the resources with which people can make their own reproductive decisions, attempts to affect the rate of population growth converge on reproductive behavior- on changing the social, cultural and personal configurations around bodies. Importantly, the bodies of concern are rarely those of the primarily white, primarily male, primarily upper- and middle-class (elite) policymakers in the United States; they are rather the bodies of women, of Third World peoples, and of the poor" (1997: 133). Environmentalist population advocacy is centrally concerned with constructing narratives about the relationships between particular populations and resource use, and devising interventions to change those relationships by reducing the number of bodies in the population. Whether voluntary or coercive, these interventions are predicated on identifying and narrating particular bodies as productive of environmental problems and resource shortages (Hartmann 1995; Sandilands 1999), a process to which racial thinking and racial categories are central. These bodies are marked for intervention not solely on the basis of what they do in the world in terms of resource use and consumption, but what they represent in terms of sheer numbers and their ability to invoke racialized anxieties (Hartmann 2007).

Race is often seen by population-environment activists as a thorny and controversial topic which they would prefer to ignore, given long histories of U.S. involvement in coercive, racialized forms of population control in both domestic and international settings (Connelly 2008; Briggs 2002; Roberts 1998; Silliman, et al, 2004). Historically, justifications of population control have been articulated through alarmist arguments claiming that rapid population growth in global South countries has devastating consequences for the environment, human health and geopolitical security at local and global levels, including threats to the security of global North countries (Homer-Dixon; Ehrlich 1968; Ehrlich 1970; Hardin). However, critics maintain that these alarmist arguments are in fact rooted in race-based fears of a disruption of white geopolitical dominance of the globe (Liagin 1995; Hartmann 1999; Connelly 2008). Arising from the post World War II era, when colonial systems were collapsing around the world as independence movement spread across the global South, American calls for population control policies in the global South were often tinged with nativist fearmongering (Bandarage 1997; Liagin 1995; Connelly 2008).

What did these policy concerns have to do with race? One answer can be found in Foucault's analysis of race as a particular concern of biopolitics (1978; 1997). Biopolitics itself is a manifestation of particular forms of state power focused on the preservation of the life of the populace through the surveillance, management, regulation and control of the population at the level of the body. As Foucault argues, at the nexus of 'the population' and 'the body' is sex itself, thus rendering the surveillance and regulation of sexuality, fertility and reproduction a central concern of state and other actors concerned with population 'problems'. He defines biopolitics in part thus: "Biopolitics deals with the population, with the population as political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem" (1997: 245). If biopolitics is concerned with the management and regulation of life, however, racism exerts the opposite effect. Foucault defines racism as a "break" in the exercising of power over life; it is a break between "what must live and what must die" (1997: 254). It functions as a means of positing the life of one group as predicated upon the death, or non-life, of the other. This point, he argues, was founded on the base of war, the notion of self preservation as predicated on the non-existence of "threatening" others. It is a particular kind of

logic which says that the death of the other will make life healthier and purer. Foucault describes this as a biological relationship rather than a military or political one, as those identified as "enemies who have to be done away with" are defined as "threats…to the population and for the population" (1997: 256). In this framing, racism makes killing not just possible, but "acceptable only if it results…in the elimination of the biological threat to and the improvement of the species or race" (1997: 256). It is the precondition for exercising the right to kill, in both direct and indirect ways, through exposing some to death, increasing the risk of death for some, or through political death.

While population-environment advocacy discourse does not call for the killing of racially different populations, some of its more extreme proponents have proposed policies in line with 'increasing risk of death' or preventing life through restrictive food aid policies, withholding medical care to rapidly growing populations, and forced restrictions on women's fertility. However, the politics of population advocacy, as well as racial politics, operating at ENGOs have changed over time. The harsh realities of human rights abuses enacted in the name of population control began to give population policy advocacy a distinctly unsavory reputation in the latter half of the 20th century (Connelly 2008), while international controversies over abortion politics further eroded funding support for population advocacy across organizations in the 1980s and 1990s (Goldberg 2009; Connelly 2008), causing a number of ENGOs to discontinue their population policy work (Sasser 2009). At the same time, community activists of color in the U.S. began to mobilize campaigns for environmental justice explicitly as a means of combating environmental racism, priorities which mainstream environmental organizations were heavily critiqued for not addressing (DiChiro 2003; DeLuca). In these contexts, many ENGOs would recoil from socially contentious debates that could potentially erode their bases of membership and funding support. The Sierra Club, however, has continued to engage in population advocacy, weathering the storms of controversy to demonstrate the organization's ongoing commitment to reducing global population growth. The remainder of this chapter investigates the ways the Club's population work has changed over time, and the crucial role of race in effecting some of these changes.

Section II: Ignoring the Problem: Race and Silence in Population-Environment Advocacy

Producing Silence: Ignoring Racial Inequality

In June 2010, I attended a meeting organized by the Sierra Club's Global Population Environment Program (GPEP) designed to "make an effort to involve adult activists already involved with the Sierra Club or with a previous interest in either environmental or reproductive health and justice issues…one thing that our program is working towards in the coming year is increasing our visibility amongst the environmental and specifically Sierra Club community."[22] Although population issues have been defined as a core priority area for Sierra Club activism since the early 1960s[23], members of GPEP felt that attention to population within the organization has been waning in recent years, and sought to increase awareness and attention to the issue within the club, particularly around the progressive focus on women's empowerment,

[22] Personal e-mail communication from GPEP program staff.
[23] "Global Population and Environment: Program History.": http://www.sierraclub.org/population/history.asp.

sexual and reproductive health, and rights. At this particular meeting, a diverse range of participants was assembled, spanning a range of racial/ethnic, age, professional and regional backgrounds. Of the thirty gathered activists, the majority were young (under 30), white and female, with a sprinkling of African Americans, Latinos, and people over 50.

After introductions and reviews of the agenda, we launched into a values clarification exercise in which a range of statements were read about population growth, resource consumption practices, family planning advocacy, and environmental conservation. Participants were asked to demonstrate their position on the statements by positioning their bodies in the area of the room that most closely aligned with their opinion, ranging along a continuum from "strongly agree" to "strongly disagree", including an area for those who were "not sure" about a statement. One statement in particular, "Everyone on Earth has the right to live at the same standard as how people live in the U.S.", raised an ongoing discussion during the post-exercise debrief. An African American woman in the group raised what she saw as a stark irony in how the question had been answered. Most members of the predominantly white, American, middle class group, had moved to the "disagree" section, citing the unsustainable resource consumption practices associated with what they saw as an average standard of living in the U.S. However, this participant was indignant. "There are so many differences and inequalities in living conditions in the U.S. that I don't know what a 'U.S. standard of living' even is", she argued, highlighting the irony of the assumptions behind the question. She went on to describe the harsh conditions of deprivation, poverty, poor health, and high infant mortality plaguing her community in Chicago- a community located in close proximity to the Chicago home of President Obama. "These are the conditions that many black people in the inner cities of America face", she argued. "Black America and white America are not the same, do not live the same, and do not die the same, because black people are overwhelmingly burdened by extreme poverty. So what 'U.S. living standards' are you referring to?" Her words were sharp, raising the issue of racial inequality for the first time during the training, and left an unsettled silence to descend over the room. The silence continued until a facilitator announced in a cheery voice that in the interest of time, the debrief discussion needed to wrap up and move on to the next exercise. The comment about racial inequality in the U.S. was never addressed.

At first glance, the woman's comments would appear not to be related to the broader themes of population, environment, development and the role of sexual and reproductive health- the themes around which the meeting was organized. However, what her statements exposed were the myriad, privilege-based assumptions encapsulated in the statement of how American standards of living can be described. Her words served to collapse the distinctions between North and South, rich and poor, consumer and reproducer, that are frequently raised as simplistic development categories in meetings similar to this one. These approaches are often invoked to construct a notion of "one world", with shared environmental priorities, agendas and responsibilities- an approach that ignores the intersecting lines of racial, gendered, class, and even regional privileges that shape environmental problems and perspectives (Di Chiro 2003; Castro 1972). She also introduced the importance of race and class in an exercise designed to mark out a clear set of boundaries between "us" and "them", global North activists/meeting participants and global South actors whose lives and activities are the subject of development interventions. By highlighting racial and ethnic differences in the U.S. and in the room, the woman hinted at multiple debates that have plagued targeted population-environment advocacy

efforts since they began in the early 1960s and spread rapidly throughout the 1970s. Contrary to the aims of the workshop facilitators, her message raised the complexities of drawing lines of distinction between "us" and "them", wealthy and poor, North and South. When people of color and the poor are in the room during debates over how to intervene on global poverty, population growth, and development, the "they" so often alluded to in discussions are in fact in the room with "us".

The stony silence that met her comments may be interpreted as a reflection of the discomfort of those in the room when confronted with questions of racial inequality in the U.S., however I argue that the facilitators' harried attempts to move forward, to brush aside, and to quickly remove the focus from race are in fact part of a broader strategy within the network. Organizational politics across the population-environment advocacy network are focused on a shared commitment to meet racial controversies, particularly those focused on U.S. racial politics, by simply ignoring them due to the inability to transform these debates into clear policy solutions. Race, and the thorniness of social justice critiques charging long term racial oppression in the U.S. and enshrined through former colonial policies, do not translate well into the packaged policy prescriptions of contraceptive distribution schemes.

Enrolling People of Color

> *I walk down the hallway of the ENGO's Washington, D.C. headquarters office, lined with the requisite glossy photos and magazine covers depicting scenes of pristine nature, the rugged outdoors and a wilderness devoid of people. This visual onslaught is contrasted by the somewhat muted tones of Sal's corner office, which is lined from floor to ceiling with books. Sal is a well known presence in the population-environment advocacy world; having authored dozens of articles, reports, and books on the topic, he is widely regarded as an expert on the environmental consequences of population growth, and an ardent proponent of sexual and reproductive health interventions for women. We introduce ourselves and shake hands, and as I settle into my chair, rummaging through my bag and searching for pen and notebook to begin the interview, Sal notes that he is pleasantly surprised that I am conducting this project. "It's so important that you're researching this issue", he said. "Particularly as an African American. It's really important that we have more people like you doing work like this." I pause, feeling somewhat taken aback by his words, and recall a similar conversation with Pamela, a private donor and supporter of population-environment projects. As we walked down the plush, carpeted hallway of her office suite, she told me that I would be well positioned for future population advocacy work. "It is really important that you are a Black person doing this work", she murmured. "You won't have any trouble finding a job in this field." It is true that there are few, if any African Americans in the population-environment advocacy network. I have almost always been the only one at the advocacy trainings I've gone to; others who are recruited often come from outside of the environment sector, and are most often pulled from sexual and reproductive health activist networks. However, I haven't previously thought about the*

pragmatics and politics of my own raced body moving through these spaces as being read in positive ways by actors in the network. Why is it so important that I, a Black woman, conduct research on population-environment connections? What is my racially coded body communicating in these spaces that I am unaware of? I shudder, discomfited by the implication that I would be complicit in population-environment projects, and that this stance would make me an ideal poster child for the network. Struggling to organize my thoughts, I pull out my notebook and pen, offer Sal a breezy smile, and begin the interview.

Who does population-environment advocacy, as much as what they say, matters. Raced bodies have a significance in the population-environment advocacy network that is often unremarked, but plays a profound and subtle role in how people of color are perceived within and outside the network. Within the network, having people of color who endorse and support population-environment advocacy is sought after as a source of legitimacy among other people of color for environmental organizations that have historically had fraught relationships with these communities. The significance of my own racialized body as a researcher was made apparent on numerous occasions when members of the network remarked, with pleasure, that they were surprised and gratified that I was conducting a research project on population-environment advocacy, as the above vignette demonstrates. At the same time, programs like Sierra Club's GPEP make a concerted effort to enroll activists of color to demonstrate the diversity of advocacy.

Nora is a young woman in her mid-twenties who has been an activist with GPEP for several years now, and has risen to the ranks of a 'star' volunteer. GPEP calls upon her often to attend youth trainings and workshops, lead panel discussions and participate advocacy days on Capitol Hill. Like most other activists with GPEP, she came to the program having already been engaged in advocacy on a variety of issues, from reproductive health and rights for women, to toxic dumping in impoverished communities in the U.S. Unlike most other long-term GPEP youth advocates, Nora is African American. Despite her ongoing association with GPEP, in an interview Nora expressed a deep sense of ambivalence with respect to the racial dynamics of population activism operating both inside and outside of GPEP.

Jade: Does GPEP ever address issues like race or ethnicity in their trainings?

Nora: Ummm. [long pause]. Yes. I think that it's a…it's never a direct conversation about race, but it's indirect. When we talk about countries with high population growth rates, it's always countries populated by people of color. But I don't feel like it's something that's really been discussed. We've kind of had conversations about how the Sierra Club itself needs to have different kinds of discussions about race, and I myself have had questions about where people have their events and who they reach out to, and whether they talk to people of color, because I think those conversations are going to be necessary. We're talking about people of color, so…[laughs]..it's important. There have been many times that I've been in rooms where there are no other people of color. I look around and I find myself saying, there's no one who looks like me.

Jade: What do you think is the reason for that? Is there some reason that people of color would be less interested in being involved in GPEP projects and activism?

Nora: I've been thinking about it a lot, and thinking about how people of color often think that associating reproductive justice with environment leads to a lot of problematic elements when people want to have conversations about population and environment without talking about human rights or race. At least in the organizations I've been involved with, people of color really have not been very strong in terms of numbers, so I often come to the table having been the one to be like, "yes, it's about this, and you have to be inclusive about where you have your events." And at least with the organizations I've worked with there aren't very many people of color in positions of power working on these issues. Last year I was having my own existential crisis about organizing around population issues and I got to the point where I was like, I don't want to talk about this. I want to talk about other things. It's been hard for me. Like if anyone was to ask me, then I'd say that I'm a reproductive justice activist first.

Jade: How did you become involved in population-environment activism in the first place?

Nora: The environmental component has come in through the SRHR [sexual and reproductive health and rights] stuff. My struggle last year was, I was getting more involved with RJ [reproductive justice] activism, and kind of learning more about people of color activism, and was recognizing that it has this horrible history, that population, like what people want to do about it and how they want to talk about it. So it was an existential crisis for me…when I walk into a room as a population activist, people don't want to talk to me. It's been really hard.

Nora's words highlight the practices of silencing the racial dynamics within GPEP and mainstream environmental advocacy organizations as a whole, at the same time that the hypervisibility of people of color in advocacy projects may render them unwitting spokespeople. As she noted, she is often expected to be the person to initiate discussions of racial inequality in many of the environmental advocacy forums she participates in, while other women of color expect her to align herself politically against population advocacy. In one conversation, she described a reproductive rights conference that was organized and led by a coalition of women of color organizations and white feminist scholars; after a panel addressing population issues, Nora noted that she felt a sense of hostility emanating from the activists, who rejected all population interventions as rooted in population control. This sense of alienation from those she viewed as members of her own community, rooted in a deep ambivalence on her own position as a Black activist in what is seen as an overwhelmingly white advocacy project, had a profound impact on her. "When I went to that conference…to be honest that's when I started to think that, kind of, I felt that existential crisis. Because I went there and I saw the reception that people got from talking about the Sierra Club", she noted. "I don't know if people are willing to have candid conversations about population that aren't about control."

Nora is not the only African American youth activist involved with GPEP programs. I met Briana at a youth training organized by GPEP and several other organizations in Washington, D.C. in the Spring of 2010. Like Nora, she has become accustomed to experiencing a sense of isolation based on her environmental activism and interest in population issues. However, unlike Nora, Briana's activism is deeply rooted in environmental conservation and environmental justice issues- the issues that led to her involvement with GPEP. Over the course of her involvement in Sierra Club outings, she became interested in GPEP because of its messaging on sexual and reproductive health and rights, although she often still feels some level of skepticism and isolation when participating in associated events:

> "Depending on who talks about population and environmental issues, like if it's an old white guy, I'm skeptical. But if they're talking about sexual health, etcetera, then I'm like yeah. When I've gone to Sierra Club events, they're all white. I'm the only person of color. Even a program to take inner city kids hiking, I was the only person of color there. I feel like the Sierra Club white people understand the issues they're talking about, but it would be nice to see more diversity."

At a youth summit meeting, Briana attended an activist workshop on population and environment where clear differences emerged between those whose attendance stemmed from a concern with sexual and reproductive health, as opposed to those active on environmental issues. Out of approximately 70 college age activists attending the summit, approximately half were people of color, including many African Americans. During a quick survey of the room, almost all of the other African Americans attending the conference indicated that they were there based on their interest in sexual and reproductive health issues. Briana and Nora were the only African Americans at the event (in addition to the author) who were invited by the Sierra Club. Briana felt a moment of disconnect from other African American women in the room when activist objectives arose, reminding her of her isolated position as a population-environment activist of color:

> "At the summit, they asked, 'How many people are here to address these issues through reproductive health? And how many are here because of the environment?' On the second question, I was the only Black girl there raising my hand. Most other Black girls there didn't raise their hands, and when I asked about it they said they'd never thought about it. It's also really abstract…those who focus on developing countries tend not to be people of color."

Briana's and Nora's experiences of isolation stem in part from their own uncertainties over the relationships between current population-environment logics, arguments and interventions and those rooted in racialized projects of population control. The racialization of bodies and fertilities in the context of environmental advocacy actually occupies a dynamic and shifting space at the center of efforts to navigate a way forward, away from racial controversy and toward an inclusive justice-based approaches (Sasser 2011). However, Briana and Nora both noted that concerns are in part based on a vague knowledge of fractious racial histories within the Sierra Club's population work. The next section of this chapter details the recent historical

context of racial controversy in the Club, and the effects of this controversy across the population-environment network.

Section III: Institutional Debates and the Centrality of Race

U.S. immigration began to arise as a priority issue area for members of the population-environment advocacy network in the mid 1980s and early 1990s. This spurred a series of meetings and workshops designed to define population as a problem requiring a coordinated strategy of intervention among donors and NGOs. According to the Population Reference Bureau, the U.S. population increased by 33 million people between 1990 and 2000, a number nearly equivalent to the entire population of Argentina (Kent & Mather 2002). Although the rate of growth slowed slightly in the next decade, at the end of 2010, the total U.S. population was 308,745,538, an increase of 9.7% over 2000 numbers- making the U.S. the largest and fastest growing industrialized nation in the world (Census Bureau 2010). During the 1990s, 60% of this growth was contributed by natural increase (resulting from the difference between births and deaths), and the remainder was the result of net migration into the country (Kent & Mather 2002).

Race and Environmental Scapegoating: The Sierra Club Immigration Controversy

Against the backdrop of a growing U.S. population, a group known as Californians for Population Stabilization (CAPS), organized in 1986, initiated a series of roundtable discussions to define a shared agenda for "preserving California's environment by stabilizing population growth"[24]. Excerpts from position statements submitted for inclusion in CAPS' 1990 roundtable reveal considerable anti-immigrant sentiment. A letter written by a marine biology professor argued,

> *"California adds over 2,000 people a day to its population. To keep pace with this escalating growth, the state must make space on its roadways for an additional 1,000 automobiles, construct nearly 20 new classrooms, and add approximately 800 housing units per day…the United States Congress is considering legislation which would increase the number of immigrants coming to America…since California receives approximately 35% of the nation's legal immigrants and refugees, that would amount to 350,000 new Californians per year. Knowing that countless hoards (sic) of illegals cross the border into California, passage of any measure in Congress which increases immigration, would be [a] harsh a blow to our state…"* – Private communication (emphasis in the original).

Two years later, a letter from the chair of Population-Environment Balance (whose writings were circulated for use in CAPS meetings), a Washington, D.C. NGO, was sent to the Sierra Club Population Committee and to the organization's board of directors, calling for addressing the "problem of overpopulation" in the U.S. through a series of incentives and disincentives promoting smaller family sizes. Specifically, the letter argues,

[24] Private e-mail message to CAPS members, August 24, 1990

> *"Perhaps the greatest disincentive to large family size is strict limitation of migration among nations. Specifically, limitation on migration would send a humane signal that people need to have a family size which can be supported within their own countries' carrying capacities, given their own cultural values. Indeed, the countries of Central American including Mexico, will increase by 50 million people in the next 20 years (if present trends continue)…clearly , even if the U.S. allowed its immigration levels to double from the current levels of over one million per year, this would not significantly aid the sending countries, given the magnitude of their problem. But it most assuredly would greatly exacerbate the variety and magnitude of U.S. environmental problems caused by our overpopulation."* – Private communication (emphasis in the original)

This was followed the next year by a missive from the director of a private California foundation, who sent a letter to the chair of the Sierra Club board raising similar concerns, stating,

> *"For some time now [our] Foundation has been concerned with environment and population issues in Mexico, and also with issues dealing with the immigration of Mexicans into the U.S., both legally and illegally. We have been supporting family planning services in Tijuana through the San Diego Planned Parenthood, and we have two pending proposals from the Planned Parenthood affiliates in Phoenix and Tucson to support similar cross-border collaborations. While these proposals may warrant serious consideration, some recent developments…suggest that this may be an appropriate time to take a look at the underlying causes of population growth along the border, and perhaps consider a more long-term strategy…In light of the border population explosion, efforts to increase the availability of family planning services in the region begin to seem like a drop in a rapidly growing bucket."* – Private communication

These letters were part of a larger project to push the Sierra Club, as California's largest environmental organization, into taking an explicit stance on population growth led by immigration. Although there were many actors involved in these developments, many of the strategies launched at this time can be linked to one man: John Tanton. In October 1986, in a document known as the "Witan[25] Memo", Tanton outlined his positions on "assimilation and the character of American society" (SPLC 2002a). In it, he articulated a strong anti-Latino immigration stance, arguing that immigrant Latinos threaten the cultural fabric of American society, threatening to increasingly seize legislative power, impose widespread Catholicism and Spanish language policies, instituting a system of apartheid in California, and threaten white political, social and educational dominance across the state and the nation. Also central to the document was Tanton's stance on the impact of immigration on environmental sustainability. In a section of the memo titled, "Conservation and Demography", he asks, "What will be the effect on the conservation movement, which has drawn its support in the past from other than the

[25] Witan is short for an Old English term "witenangemot," translated as "council of wise men." Tanton and Witan colleagues regularly met at retreats to discuss their positions on immigration. (SPLC 2002b).

minorities, and which has relied on the political power of the majority to pass legislative measures? As the people that groups like the Sierra Club represent go into opposition (minority political status), will many of the things they've worked for be lost because the new majority holds other values?" Lest members of the Sierra Club and other organizations were tempted to dismiss Tanton's inflammatory rhetoric, he cautioned in ominous tones that: "The Sierra Club may not want to touch the immigration issue, but the immigration issue is going to touch the Sierra Club! (To mention just one group.)" (SPLC 2002a)

Although Tanton's statements read as inflammatory, it would have been difficult for Sierra Club leaders to dismiss Tanton himself as irrelevant. Tanton headed up the Sierra Club's Population Committee in the 1970s, and served as past president of Zero Population Growth (SPLC 2002b), in addition to starting a slew of anti-immigration, pronativist organizations with ties to white nationalists (Levison et al, 2010). Articulating their positions on racial, political and environmental grounds, these groups (including Federation for American Immigration Reform (FAIR), Numbers USA, the Center for Immigration Studies, and Californians for Population Stabilization (CAPS)) included projects that were funded by controversial foundations like the Pioneer Fund, a foundation that has historical associations with neo-Nazi and eugenics projects in the U.S. (Dowie 1996). Tanton's organizations have also been funded by groups like the Weeden Foundation, a family foundation whose Population/ Consumption program often funds environmental projects that link immigration with a range of environmental impacts, including increased traffic, air pollution, urban sprawl, and increased greenhouse gas emissions.

Rather than dismissing Tanton and his organizations outright, some members of the population-environmental advocacy network chose to engage with them. The National Audubon Society and the Environmental Defense Fund have both contributed to and signed joint statements with FAIR (Dowie 1996). Tanton fulfilled his promise that the immigration issue would touch the Sierra Club through a series of efforts to force immigration into the organization's policy on population. In 1996, Sierra Club President J. Robert Cox was warned that volunteers in the Club's population program were planning to push immigration onto the institutional agenda. Citing a lack of clear evidence of the impacts of U.S. immigration on the environment, Cox and the Club's population program leaders agreed to adopt a statement of neutrality on U.S. immigration, opting instead to continue to address global population growth, which they "understood… had serious consequences for air, the land and the food supply, *of course*" (SPLC 2004; emphasis added). Prior to that time, the Club's population policy, first adopted in 1969, included language emphasizing the stabilization and reduction of U.S. population (Sierra Club 1995; SPLC 2004). In response to the Club's abrupt policy reversal, a group called Sierrans for US Population Stabilization (SUSPS) formed in 1996, under the leadership of Bill Elder and other members of the Club, who gained Club membership in significant numbers for the purpose of placing a referendum on immigration on the next ballot.

SUSPS' Alternative A, as the measure was called, demanded a reversal of the Club's neutral stance, instead urging a net reduction of immigration into the U.S. The text of the proposition read as follows:

> *"Shall the Sierra Club reverse its 1996 decision to "take no position on immigration levels or on policies governing immigration into the United States,"*

and adopt a comprehensive population policy for the United States that continues to advocate an end to U.S. population growth at the earliest possible time through reduction in natural increase (births minus deaths) but now also through reduction in net immigration (immigration minus emigration)?"
(Schneider and Kuper, 1998).

In April, 1998, the Club announced the defeat of Alternative A by a wide margin- a vote of 60% to 40% (Sierra Club, 1998). This sound defeat did not deter members of SUSPS, however. They continued their plan of action from a focus on ballots to an emphasis on board elections. Three SUSPS-backed candidates were elected to the Club's board of directors in 2002 and 2003, including Ben Zuckerman of CAPS (Levison 2010). By 2004, SUSPS only needed to get three additional anti-immigration board members into position in order to have a majority large enough to reverse the Club's neutrality policy. Two of the three SUSPS candidates that were put forward held senior leadership positions in John Tanton's organizations; the third candidate served as a board member of the Carrying Capacity Network, an organization whose president self identifies as a white separatist (Levison 2010).

Current and former leaders of the Club were outraged by what appeared to be an imminent hostile takeover[26] of the Club. In January 2004, twelve past Sierra Club presidents drafted a letter expressing their "extreme concern" for the "continuing viability" of the Sierra Club if the proposed candidates were elected. One former president argued that "It would be the end of John Muir's vision as we know it", adding that, "it would turn the club into the hands of outsiders who have their own personal agenda." (Campbell 2004). This period was described by another former leader as the greatest threat in the Club's history (Levison 2010). Members across the Club came together as an internal movement and organized themselves into a group named Groundswell, specifically to fight the board takeover. Although the 2004 election was heavily contested, the anti-immigrant candidates were defeated by a wide margin, a process that was repeated in the subsequent election in 2005 (Martin 2004; SPLC 2004).

Rather than avoid the issue, the question for some population-environment advocates is how to participate effectively in the debate over immigration and environment, without degenerating into accusations of racism or scapegoating. A manager at another environmental NGO started a controversial but popular condom campaign with catchy slogans linking condom use with protection of wildlife, argued that it is necessary for population-environment advocates to address population growth in the U.S., and not to cede the debate to those who make accusations of racism. "If we as a progressive organization can't talk about overpopulation, then only those who really are racist will be the ones talking about it", he argued. "Pointing fingers across racial and ethnic lines is a recipe for disaster, and as a progressive organization, we're not going to go there or adopt that message. We don't address immigration at all unless we're forced to in the media. It's a racist, damaging argument; the finger is being pointed at Latinos, not Canadians or Brits. We're trying to set an example as an organization, saying that you can address these issues without talking about race, ethnicity, or national origin."

[26] This realization was spurred by a letter from the Southern Poverty Law Center charging that the Club was the subject of a clear hostile takeover event, and urging leaders to respond aggressively (SPLC 2004).

According to this logic, the effective means of addressing immigration is to enact racial silence around the debate, thereby naturalizing immigration and immigrant as categories requiring no critical analysis. At the same time, the argument for erasure of racial inequality prevents a critical engagement around scapegoating itself- the practices through which how racially marked immigrant bodies become convenient sites of blame for ongoing environmental degradation in the U.S. and beyond. To date, the Sierra Club maintains its official stance of neutrality on immigration, which continues to shape its population program's focus exclusively on global (non-U.S.) population growth. Despite the fact that Club members have not elected an anti-immigration majority to their board of directors, this by no means reflects a consensus position on immigration and environment among Club members.

Digging Deeper: Racism at the Root?

For other ENGOs, the Sierra Club immigration controversy served as a clear marker that discussions of population and environment in the United States would leave them vulnerable to charges of racism, anti-immigrant hatred and political conservatism. The controversy dealt a serious blow to the network, rendering American population growth an untouchable issue and miring organizational discussions of racial politics in controversy. It also arose during a time period in which members of environmental justice communities were critiquing the lack of diversity within mainstream American ENGOs, both in terms of organizational staffing and program priorities that reflected embedded race and class privilege.

Two well-known examples of these critiques arose in 1990, when representatives of the Gulf Coast Tenant Leadership Development Project in New Orleans, and the Southwest Organizing Project (SWOP) in New Mexico, sent letters to the Group of Ten[27] charging them with racism, institutionalization of privileged interests, and a lack of representation of the environmental concerns of people of color and the poor. The Gulf Coast letter argued that "racism and the whiteness of the environmental movement is our Achilles heel", telling Group of Ten leaders that, "you must know as well as we do that white organizations isolated from Third World communities can never build a movement" (Dowie 1996). The Southwest Organizing Project letter went further, placing blame for a lack of institutional diversity and disproportionate environmental burdens in poor communities of color with the Group of Ten itself. Their letter blasted the group, arguing that, "although environmental organizations calling themselves 'The Group of Ten' often claim to represent our interests, in observing your activities it has become clear to us that your organizations play an equal role in the disruption of our communities. There is a clear lack of accountability by the Group of Ten environmental organizations towards Third World communities in the Southwest, in the United States as a whole, and internationally." (SWOP 1990: 1). The document is 3 pages of text and 6 pages of 100+ signatures from a cross section of communities of color spanning arts, activist, religious and academic communities. It levels charged of explicit racism at the heart of the mainstream American environmental movement, demonstrated through the annexing of Native lands and Chicano cultural heritage

[27] The Group of Ten was formed in 1981 and included the CEOs of ten of the largest and most influential mainstream environmental NGOs in the U.S., including the Sierra Club, Audubon Society, Natural Resources Defense Council, Friends of the Earth, Environmental Policy Institute, Izaak Walton League, Wilderness Society, Environmental Defense Fund, and the National Wildlife Federation. The group has since been renamed The Green Group.

sites, a lack of people of color in decision-making positions on the organizations' staff and boards of directors, the initiating of debt for nature swaps with low resource global South countries, and fostering strong ties with corporations with demonstrated histories of toxic dumping in communities of color. Specifically, the letter states, "racism is a root cause of your inaction around addressing environmental problems in our communities" (SWOP 1990, p. 2).

The SWOP letter in particular sent a shock wave through mainstream environmental organizations[28], and served as a critical turning point, because for the first time they located race and class privilege squarely at the center of the mainstream American environmental movement (DeLuca & Demo 2001: 541). These concerns were well founded; according to DeLuca & Demo (2001), the first 100 years of the mainstream American environmental movement was been primarily concerned with preserving pristine places, a "narrow, class- and race-based perspective of what counts as nature" which has enabled environmental organizations to "neglect people and the places they inhabit, thus isolating the movement from labor and civil rights concerns and rendering it vulnerable to charges of elitism and misanthropism" (p. 542). This legacy's roots in American environmentalism run deep, having a defining impact on environmental organizations' advocacy priorities and strategies, lobbying efforts, and ultimately environmental policy.

Beyond leveling charges of racism, the letters demanded more equitable resource distribution to environmental justice community groups, along with increased diversity in hiring practices and board membership. Initial reactions to the letters were lukewarm for many members of the group, who argued that they could not find qualified people of color to staff positions within their organizations (Dowie 1996). However, some members of the Group of Ten responded positively to the critiques, utilizing them as a basis for spurring systemic change within the organization. The Sierra Club's Executive Director at the time, Michael Fischer, offered a particularly strong response. Calling for a "friendly takeover" of the Sierra Club by people of color, Fischer argued that the alternative was for the Club to "remain a middle-class group of backpackers, overwhelmingly white in membership, program and agenda -- and thus condemned to losing influence in an increasingly multicultural country… The struggle for environmental justice in this country and around the globe must be the primary goal of the Sierra Club during its second century." (Durlin 2010). The SWOP letter served as the impetus for several of the groups to initiate formal programs focused on environmental justice. In 1992, the Sierra Club hired its first Environmental Justice program director, and has since expanded its program to a fully staffed department of ten, primarily people of color[29].

Staffing key positions with people of color, although a highly visible practice for increasing diversity, is insufficient to produce systemic change in organizations that have long institutionalized values based on race and class privilege. In the U.S., environmental activism has historically been shaped by social categories including race, gender, politics, social reality and ethics, a reality that endures today (Taylor 1997: 16). In mainstream American environmental organizations, organizational priorities are heavily informed by the politics of whiteness, operating simultaneously as an unmarked category and as the racial position from which much mainstream American environmentalism is derived (Deluca & Demo 2001). In the context of

[28] The SWOP letter has been referred to as "The letter that shook a movement". (*Sierra* 1993).
[29] The Sierra Club Environmental Justice and Community Partnerships site: http://www.sierraclub.org/ej/default.aspx

population-environment advocacy, the race and class privileges embedded in environmental perspectives are made manifest in particular visions of nature under threat- particularly from racialized bodies.

Conclusion

This chapter demonstrates the contradictory role of race in shaping ENGO-led population advocacy today. Histories of racial controversy have had a strong impact on advocacy approaches, although these histories are often silenced, ignored, or subverted into attempts to demonstrate racial diversity as social progress. Meanwhile, those advocates who do participate in Sierra Club population work express a profound sense of ambivalence regarding their roles as representatives of racial diversity for an advocacy movement that has historically been grounded in explicitly racist narratives. Beyond questions of controversy and silence, the issue of racial politics in population-environment advocacy highlights internal tensions and contradictions within the network and the member institutions that comprise it, as they attempt to define a progressive vision for population work while contending with a deeply problematic past. One of the responses to the thorniness of racial politics has been to develop a stronger grounding of population advocacy in science. In the next two chapters, I explore how knowledge production and politics entwine in efforts to move away from controversy and ground population-environment in science.

Chapter Five

Steering the Ship: Donors and the Co-Production of Population Science and Policy

Introduction

This chapter focuses on the role of public and private sector donors who fund environmental activist groups, scientific researchers and international development programs that produce knowledge on population as a key variable in environmental change. While activists and scientists are more commonly known as the public face of population-environment debates, the arguments they produce and circulate must be understood within a larger context of institutional funding mandates, political priorities, personal politics, and shifting scientific research paradigms. Private donor institutions serve as a key node of actors within the population-environment network, without whom contemporary knowledge production on population and environment would not be possible.

In exploring the entanglements of knowledge production and policy advocacy, I explore here the importance of the multiple roles played by private foundation donors. Foundations operate with little oversight, a high degree of autonomy, and powerful agency undergirded by having access to strong financial resources at their disposal. Those resources can be used in the service of producing scientific, political, and social results, as well as influencing public policy via indirect means. A central argument of the chapter is that public and private donor organizations in the U.S. operate as agents of change with scientific, social and political agendas of their own (Dowie 2001; Hartmann 2002). This is particularly evident in the context of global population and environment politics, and has manifested in forms ranging from creative donor financing to strategic donor partnership and grantee selection. Population and environment issues have been linked in American thinking, foreign policy, scientific production, and international development interventions throughout the 20th century (Connelly 2008). As this chapter will demonstrate, much of the way American publics think about population as an environmental issue is a product of donor advocacy. In other words, donors operate as silent advocates of population-environment linkages, creating the conditions through which researchers and activist groups take a more public role in shaping public debates. Private-public donor relations, and the relations of donors to their grantees, shape these linkages through the co-production of science and politics on global population-environment.

Producing Knowledge, Producing Policy

Historically, knowledge production about global population trends has been thought to be the purview of demographic, or population, scientists. Demographers are charged with producing models that describe and interpret rates of fertility, mortality and migration, data which can then be used by a range of other actors to produce social and political policies. Although science and

technology studies (STS) scholars have done considerable work to interrogate and disrupt the binaries produced in thinking about knowledge production and political work as separate spheres of action (Jasanoff 2004; Jasanoff & Wynne 1998), this work has largely not focused on the political contexts which make certain knowledge production possible. The funding context in which scientific studies are conducted is an often black-boxed arena in which considerable questions can be raised about the political origins of scientific research. While scholars have explored the funding trends making certain arenas of study more likely than others, they have not focused on what makes certain funding projects possible, and the political motivations behind them. In her description of the role of demography in population policymaking, Greenhalgh (2008) argues that population science is a fundamental component, without which population policies would be untenable: "In policies aimed at governing populations, science-based logics play an especially critical role because population is a biological entity…and science claims to be the sole authority on "nature", to which biology belongs. It would be difficult to govern population- or to govern it well- without a science of population (2008: p. 8). She goes on to argue that "science serves to legitimize both the exercise of power through policy and the authority of the policy makers" (Greenhalgh 2008: p. 8). In this chapter, I argue that just the opposite is also true: powerful policy actors exercise a tremendous amount of power in determining what comes to be developed as population knowledge. In other words, we cannot understand the science of population without the policy context that enables its development.

Research funders play a significant role in determining the contexts in which particular research questions are explored, the questions that are asked, and the scale and direction in which research is pursued. As a result, donor organizations are key actors in knowledge production in that they create the conditions of possibility for research to take place. Far from serving as neutral arbiters of research questions, they often shape the terms of how research projects are framed, the questions they seek to answer, the methods and tools employed to investigate research projects, and the ways in which research findings are disseminated. One could argue that, despite being non-scientists, donors are the most important actors in the realm of scientific knowledge production.

The first part of this chapter investigates the role of private capital in the development, production and dissemination of knowledge, advocacy, and intervention projects linking global population growth with environmental degradation. The next section charts the unique advocacy practices engaged by donors who work across sectors to promote a vision of an environmentally sustainable world predicated on population interventions in global South countries, in the context of shifting funding landscapes and global political sympathies. The third and final section explores the practices and strategies through which public and private donor institutions work to influence U.S. foreign policy on family planning through an environmental lens. I analyze the formal and informal practices through which donor institutions share knowledge and strategy, forming a loosely linked network of relations of power.

Part I: Steering the Ship: Creative Donor Advocacy

The model of donor-driven scientific advocacy has a long history within private philanthropic organizations, particularly with respect to funding population research. Sharpless

(1997) traces this process to the 1940s and 1950s, when the immediate postwar period witnessed an unprecedented increase in the development of formal networks between government economic planners, foreign policy experts, professional demographers, corporate leaders and directors of philanthropic organizations, who shared the goal of "re-working… demographic knowledge to make it more 'user friendly' to policymakers" (2004: 176). Based on American geopolitical security interests newly outlined in Truman's Point 4 Program of Technical Assistance to Developing Nations (1949), members of this network were particularly interested in the 'population problem' and its potential for promoting regional destabilization, particularly in global South countries. At the same time, they were concerned about the potential spread of Communism in regions of rapid population growth (Sharpless 2004). Thus, the network adopted a three-pronged approach. First, they sponsored demographic missions to global South countries in order to collect population trend data firsthand; second, they institutionalized professional demography as academic and policy science through the development of university-based population centers; and third, they influenced professional demographers to shift their academic paradigm, the demographic transition theory, to better support prevailing political goals of the day. Private donors played a key role in this process: "The philanthropic subsidy of demographic research in the immediate postwar years was not simply an exercise in pure science but was *specifically aimed at policy* (emphasis added).... What happened, in essence, was not only the legitimization of the 'science' of demography but also the acceptance of demography as a *policy science* (emphasis in the original)" (Sharpless 2004: 183-4).

Dowie (2001) roots the rise of American private philanthropic organizations as key actors in the development of both knowledge production and socio-political change in three distinct phases, or "waves" of private foundation development over the course of the 20th century. The first wave, lasting from the turn of the century until the mid-1940s, was focused on knowledge production. In the population arena, this phase constituted the development and institutionalization of demography as population science. Wave two, from 1945 to around 1960, describes the period during which foundations began to move into the role of influencing public policy, acting as mediators in policy formation. Population studies around the world began to influence the development of international development policies focused on poverty alleviation and food aid, which were also designed to offset population growth. Phase three, beginning in the 1960s and continuing through today, described what Dowie refers to as foundations efforts "to promote, quite cautiously, their own conceptions of *social justice*." (2001: 2; emphasis added). It is this set of population interventions that has transformed the most, moving from top-down population control strategies focused on meeting general targets for population reduction, to a social justice approach focused on women's rights. Dowie argues that private foundations have operated specifically to advance their founders', boards', and extensive staff's commitment to building their vision of a better society, contributing to a common private philanthropic agenda of using private capital to effect social change. However, foundations that focus on international interventions move beyond a simple vision of a better society to conceptualize the characteristics of a better world- one in which social justice and social change are global in scope. How are these global changes effected? What are the practices through which public and private donors move beyond institutional science and politics to affect population-environment outcomes on the ground?

Co-producing population-climate science and politics

In May, 1998, Sal[30], the manager of a population-environment program at a Washington NGO sent a ten page letter[31] to Pamela, a senior manager at the Austin foundation, who also happened to be a donor to his program. In the letter, he outlined what he saw as a crisis of legitimacy in the field of population-environment advocacy and intervention. "There is a dearth of scientific research on the population-environment linkage", the letter argued, and "what there is often displays a 'contrarian' bias" against population-environment linkages, which Sal found to be a great hindrance to the further advancement of population-environment advocacy. "The greatest need may be to identify ways to fund careful, accurate research, worthy of the widest dissemination, which is at least not hostile to the linkage between population dynamics and environmental problems", he claimed. This would aid in countering the existing "contrarian bias" on the part of critical academic scholars, he argued, which seemed to be directed toward the purposes of "shatter[ing] 'shibboleths' about population and the environment [rather] than…clarify[ing] the precise nature of the linkage."

As Sal saw it, advancing new scientific understandings of population-environment linkages would provide a means of "developing new ways to reach the public with an enhanced and respectable presentation of the population-environment linkage", which would bolster advocacy efforts, attract environmental journalists and other writers to take an interest in population issues, and confer a sense of scientific legitimacy on population-environment activism. He called upon Pamela and other donors to support academic research which is "at least open to the hypothesis that population dynamics are decisive in the expansion and worsening of environmental problems"; noting that a number of scientific academies had previously issued joint statements attesting to a linkage between population growth and environmental degradation. He pointed out that these statements were not based on consensus approaches, nor on actual research findings, but rather "on the commonsense understanding of scientists of various disciplines."

The conundrum that he laid out was clear: population-environment advocates in environmental organizations needed more solid scientific ground from which to argue their case for the environmental benefits of slowing global population growth. However, rather than waiting for scientists to produce this research on their own, Sal clearly identified private foundations, with their autonomous access to private capital and freedom from public or scientific accountability for funding projects, as the most appropriate solution to the problem. At the same time, the ethical conundrum inherent in Sal's request was clear: in order to produce the type of scientific results he was soliciting, Pamela would need to engage in donor advocacy, in this case donor-led production of value-driven science (Kincaid, et al. 2007).To address this challenge, Sal suggested a simple solution: the "selection of institutional homes and individual researchers known to be of the highest academic and intellectual caliber combined with the courage to challenge conventional scholarly views", thus providing a stronger evidence base

[30] Except where noted, institutions' and individuals' names are pseudonyms.
[31] Private letter shared with author by donor.

from which to argue a causal linkage between population growth and environmental degradation, while grounding one's arguments in academic and institutional elitism.

Pamela, the senior donor at Austin, was listening. A long time proponent of global population stabilization, particularly in Africa and Asia, Pamela was trained in ecology, and had long been concerned about strengthening the scientific argument linking population growth to environmental degradation in the global South. Sal's request also dovetailed with an ongoing quest in the population-environment donor community to strengthen the scientific and political bases for population-environment advocacy, particularly in the context of declining public funding for integrated approaches (Wilson & Kehoe 2000; Pielemeier 2005; Kleinau, et al. 2005). Several years later, Pamela had the opportunity to fulfill Sal's request. She contacted a senior demographer at one of the largest population research organizations in the U.S.[32], asking him to recommend a scientist who could conduct the kind of research Sal specified- research that would not only make a strong scientific case linking global South population growth to greenhouse gas emissions and climate change, but that would also provide a justificatory framework for advocacy work geared toward increasing U.S. government funding for international family planning programs. The demographer had just the person: a climate scientist, working at a well-regarded research institution, whose recent work was focused at the nexus of climate change science and demography. The researcher was also a contributing author on Intergovernmental Panel on Climate Change (IPCC) reports, and had long pursued a research agenda focused on modeling the impacts of population growth on future greenhouse gas emissions. In a subsequent e-mail to the scientist, Pamela described the Austin Foundation's commitment to population and environment issues, as well as outlining the potential interest in funding new scientific research establishing a clear connection between these issues in the context of climate change:

> "The [Austin] Foundation…has a long standing interest in both environment and population issues, including the interrelationships that exist between these two fields. Climate change is one of our current environmental areas of interest, and increasing resources for international family planning and reproductive health services is a major focus of our population program…I am writing to inquire about whether the forthcoming Intergovernmental Panel on Climate Change's Fourth Assessment Report will include any mention of population growth, or any recommendations for increasing funding for reproductive health services in the LDC's [Least Developed Countries] as part of a strategy for adapting to climate change. If so, the [Austin] Foundation might be quite interested in supporting efforts aimed at the broadest possible public dissemination and discussion of that portion of the report…"

Pamela's offer message was well received; the scientist responded the next day with a detailed list of several nascent population-climate research projects that he was pursuing separate from the IPCC reports- work that could immediately be expanded, with Austin Foundation funding. With that, a new donor-grantee relationship was born.

[32] Private e-mail correspondence with the demographer, and later the climate scientist, were shared with the author by the donor.

Personal power, personal politics? Understanding donor advocacy

The interaction between Pamela, Sal and the scientist is particularly useful for understanding the everyday, behind-the-scenes processes through which scientific knowledge and political practice are co-produced by powerful actors. Pamela had been searching for some time for a means of bringing a scientific grounding to what she had been interested as a possible set of relationships between population growth in low-emitting, countries in the global South, and future climate change. Without this type of predictive research, the relationship between high population growth and greenhouse gas emissions cannot be established. For example, industrialized nations, most of which exhibit slow or no population growth[33], are responsible for the vast majority of global yearly per capita greenhouse gas emissions. The United States population, which comprises 5% of the global total, is responsible for emitting 25% of global emissions every year (Soubbotina 2004). Even China, a nation with a population four times that of the U.S., has a lower rate of per capita greenhouse gas emissions, although its total national average emissions have surpassed those of the U.S. (EIA 2010).

However, for Pamela, personal interest, established institutional priorities, and privileged access to the administering of private capital entwined to drive population-climate linkages forward as a key priority in what she saw as innovative grant making:

> "We were a very, very early funder in this area. We identified it [the impact of population growth on greenhouse gas emissions] as a potential interest 2.5-3 years ago and we looked for who would be the right scientists to fund to demonstrate whether or not it did matter whether the population grew in terms of impacts on climate change. The accepted perspective at the time was that 95% of growth would happen in the poorest countries of the world, and that those folks didn't have cars and their carbon emissions were very small. We weren't sure that was true; we wanted the science to know more."

Pamela has a strong reputation in the donor community for being an intense, outspoken advocate of global population stabilization, particularly in the context of climate change. Two other donors I spoke with mentioned that Pamela had become known for storming into population funders' network meetings, arms waving, crowing about the impending climate catastrophe. To put it mildly, her reputation precedes her. However, while sipping tea in her plush carpeted office, Pamela struck me as polite and friendly, and strongly grounded in the scientific debates on climate change. The bookcases lining the walls of her office were filled with a range of books on conservation, global environmental politics, women's sexual and reproductive health, climate change, and international development. Her file folders spilled over with scientific articles and research briefings, alongside project reports, funding strategy documents and historical material on the Austin Foundation's early population projects focused on reducing immigration from Mexico. Talking with Pamela is somewhat a study in contrasts. Her mild mannered demeanor belies what others describe as a relentless, even zealous, focus on

[33] The U.S. is an outlier as the only industrialized nation still exhibiting significant population growth at an annual rate of 2%.

foreign population growth as a primary driver of environmental catastrophe. Yet, as she speaks, it becomes clear that Pamela situates population-environment linkages in the contexts of both scientific fact and strategic opportunity.

We sat on the couches in her office as Pamela described her effort to engage the IPCC scientist. She did not see herself as engaging in personal or political advocacy, *per se*. Rather, she saw herself as engaging in scientific advocacy—utilizing her access to capital in order to bring forward innovative scientific research which otherwise would not have been produced, as well as connecting the aforementioned scientist with additional sources of funding when he needed to expand his research. In this context, she positioned herself and her foundation as innovators:

> "We made a grant to him to determine whether or not you could determine whether it made a difference to greenhouse gases if the population was 8 or 10 or 12 billion. He reported that it did make a difference, and that the difference was measurable. But he felt that the report would take longer and require more money to really produce definitive conclusions. So we introduced him to another, much larger and better funded foundation, and they funded him. The research will be out soon; it's compelling and interesting. This puts us way ahead of the curve of foundations."

Donor advocacy often serves as a driver of grantee work, influencing both the types of scientific research produced by the scientists funded by foundations like Pamela's, as well as advocacy efforts led by the population NGOs they fund. One former donor from the Office of Population and Reproductive Health (OPRH) at the United States Agency for International Development (USAID), who considered himself to be a strong proponent of population-climate interventions on scientific grounds, expressed deep skepticism over whether population-climate interventions will ever receive public funding, due to a general lack of scientific knowledge in the American public:

> "The general scientific illiteracy of the American people is important. We have climate change deniers who get as much credibility as climate scientists. Or a big hoofera over these e-mails, and somehow everything is discredited. So I think the weakness of our system is inability to use science to set policy. An example might be Superfund cleanups. The risks in the real world are small compared to the billions of dollars spent to clean them up. An overarching issue is emotion and politics moreso than clear thinking based on our best science."

As a result, this donor argued, private foundations are uniquely positioned to support the production of knowledge that many in the American public, to their own peril, refuse to view as important. What does the idea of scientific innovation do for private donors? In the context of making the population-environment linkage work as a policy strategy, a stable grounding in *science* is necessary in order to drive forward what is otherwise seen as a moral and political argument. Being in a position to not only support, but solicit the production of innovative science offers donors in private foundations the opportunity to characterize their grant making as

similarly innovative, grounded in the pursuit of the advancement of knowledge, rather than political debates.

Part II: Donor Practice In and Out of the "Norm"

The American philanthropic sector grew dramatically over the course of the 20th century, from just 18 foundations in existence before the year 1910, to approximately 50,000 private, corporate, and community foundations by the year 2000 (Dowie 2001). As a result, nonprofits, international NGOs and community based organizations have come to be increasingly dependent over the past century on an expanding group of private funding organizations whose scientific, political and strategic objectives are often closely guarded. In the context of population-environment projects, the process of securing funding from these organizations is similarly obscure, despite public representations of the grant making process.

Perusing the websites of the handful of private foundations that operate population programs yields a standard picture of the grant solicitation, application and funding process. Step 1 involves becoming familiar with the types of projects that are typically funded by that particular funding agency, including researching grant making programs, goals and strategies, and geographic specifications. Foundation websites also publish information on recently awarded grants, including the funding amounts that have previously been allocated to grantees across programs so that potential grantees may tailor potential funding requests to fit a set of parameters that will likely yield a successful grant application. This information is also meant to weed out potential grantees that are not likely to have a grant funded, whether due to the amount of the funding request, or because they engage in projects that do not suit the donors' priorities, strategies, or conceptual frameworks for creating change.

Once a potential grantee has familiarized her/himself with the zones of possibility in grant funding, they initiate Step 2: writing a Letter of Inquiry (LOI). At this phase, grant seekers enter into somewhat of a courtship with their potential donors, as they attempt to assess exactly the right phrasing, funding amount, and description of program activities that would achieve the objectives supported by the donor. As one Program Officer I interviewed noted, this process can be a frustrating one for donors in the sense that often grant seekers tailor their LOIs, and later proposals, to what they anticipate to be a successful grant, rather than keeping with their organization's goals and objectives. Step 3 is the stage where, having reviewed LOIs and selected those that appear to best fit the foundation objectives, the Foundation solicits full proposals. Only under invitation from the Foundation are grant seekers allowed to submit full proposals; those who deviate from this regulation by submitting full proposals outside of these tightly regulated guidelines are disciplined with a refusal of funding. Proposals are made to fit within a set of parameters with respect to length, content, format, and style. Of them, a select number are included in a docket, or a list of funding proposals that are then given final approval by the foundation's board of directors. In this regard, all foundations are different in that smaller organizations have heavy board involvement in funding allocations and docket approval. Larger foundations with multi-million dollar dockets often have less oversight, and program funding areas are approved as single dockets, rather than on a program-by-program basis. After approval of the docket, successful organizations receive a formal letter outlining the terms and stipulations of the award.

I explore the pragmatics of the typical process of soliciting and receiving awards from private foundations in order to provide context for the rest of this section of the chapter, because this section is in fact about how a significant portion of private foundation funding for population-environment grant making has historically deviated from this norm. In other words, this particular area of niche grant making has followed such a unique trajectory that it can be described as defining a new norm of creative donor financing. As I discovered over the course of numerous interviews, Pamela's actions as an active recruiter of grantees hardly make her an exception to the norms of private donor practice within foundations, particularly in the context of population-environment science and advocacy. Although private foundations are institutions designed to carry out the mandates of their governing boards, individual leadership, personal priorities, and larger political trends may have a significant influence over the direction of particular funding portfolios (Connelly 2008; Hartmann 2006).

For example, staff members at private foundations are often able to translate their personal interests into political advocacy programming through the strategic use of program funds. As a donor at a private foundation noted,

> "In the longer term, when [our founder] set up the Foundation, what drove interest in the population field was the environment and the links they saw there. More recently, it was a personal interest of mine, something I was interested in pursuing. It coincided with a former Environment Program Director who has since left. He had approached me and said that there were some clear links between our projects, and that we should think about doing some joint work…it just made sense. So, I came up with our population and climate change work..."

The drive to create programs based on personal interest among donors cannot be seen in isolation. Program officers at private philanthropic institutions bring to their positions a set of personal interests, biases, priorities, and political perspectives, all of which shape the funding portfolios they develop. In fact, a number of private foundations, including Hewlett, Packard, Goldman, Compton, Pew and Summit have offered environmental organizations sums of money, ranging from the tens of thousands to the hundreds of thousands, to spend on population-environment work over the years (Sasser 2009). Individual donors may see their work as reflective of cutting edge or innovative development work, particularly in the context of cross-cutting or multisectoral work, particularly given the fact that most donor funding is siloed into single-issue grants. A former donor at another private foundation told me that private donors often have the flexibility to create new synergies between different program streams, which some see as innovative development practice:

> "I ran an experimental initiative to do cross cutting grant making at [our foundation]. I created that program, which centered on creating grassroots programs linking women's reproductive health with conservation and the environment. I also worked on grants that went toward organizational work. My SOW (scope of work) was to do experimental grant making. But my background was on the role of women in environmental development. The main population strategy at the time was family planning service delivery; the conservation

> strategy was biodiversity. My question was can we pursue both goals in a synergistic way that meets the needs of both. I wanted to convince people that it could be done, to prove the hypothesis."

At root, donor advocacy is dependent on available capital, which fluctuates on the basis of factors ranging from board approval to overall resource base of the foundation. The 2000 collapse of many Silicon Valley-based internet companies had a devastating effect on a number of foundations in the area, several of which have historically been key funders of integrated population-environment work (Pielemeier 2001). Overall funding allocations to these programs have declined by nearly 40% since 1997 (Speidel et al, 2008), and the immediacy and popularity of attention to climate change is seen by some members of the network as offering an opportunity to bring renewed attention to population growth (Speidel et al, 2008). At the same time, regardless of the arrangements through which donors seek grantees to fund, the reality is that the ultimate power rests with the donor- the power to create and eliminate programs, the power to support particular strategies and reject others, and, as the history of private foundations and population science suggests, the power to shape the production of scientific knowledge and public understanding.

The creativity offered by private foundation funding of population programs offers the promise of allowing more innovative, cutting edge programs to be funded. But at the same time, it forecloses on the possibilities for democratic participation in projects ostensibly created in the public interest, particularly in circumstances of increased donor control (Ostrander 2007). Who determines the public interest in this context? In the mid-90s, around the time of the 1992 Rio Earth Summit and the 1994 International Conference on Population and Development in Cairo, private foundations funding population work began to realize that the tide was turning away from population control agendas and toward women's sexual and reproductive health and rights (Goldberg 2009). After a set of fierce, women-led debates among environmental and women's health NGOs at the Earth Summit harshly repudiated top-down, demographically driven population control programs, USAID and other large public agencies in Canada, Britain, Sweden and Japan dramatically reduced their funding of international family planning programs (Hodgson & Watkins 1997). What was clearly an impending gap in support for population control projects provided by public funding sources opened up, providing an opportunity for private foundations to step into the breach. In 1993, in the time span separating the two conferences, the Pew Charitable Trusts made a set of prospective grants to environmental organizations to draw them into addressing population issues from an environmental standpoint, at the very moment when this approach was losing its base of support from the public sector. What was particularly significant about these efforts is that they reflected a new, experimental approach to framing population-environment linkages through the lens of women's sexual and reproductive health, based on what staff saw as an emerging consensus view that improving quality and access to contraceptives was a synergistic approach to addressing issues of overpopulation, overconsumption and environmental degradation (Pew Global Stewardship Initiative (PGSI) 1993).

At the time, Pew Charitable Trusts (PCT) was the largest environmental donor in the U.S., and worked proactively to shape the U.S. environmentalist agenda (Dowie 2001). It established the Pew Global Stewardship Initiative (PGSI) to address population growth and consumption issues, as well as to forge consensus among diverse constituencies working on

population and environment issues, and to increase public knowledge and activism on population and consumption issues (PGSI 1993). The PGSI also funded the production of applied research on effective advocacy tools that could best engage U.S. foreign policy makers, media, environmentalists, and religious leaders in these endeavors. One of the outcomes of these efforts was that PCT approached seventeen American environmental NGOs organizations, asking them to engage in global population stabilization advocacy efforts.[34] A comparative analysis demonstrates distinct changes in the number and type of environmental organizations with funded population programs in 2009 [Table 2], compared with 1994 [Table 1].

Table 1: Environmental Organizations Previously Operating Population Programs, 1994

Organization	Type of Population Program	Currently Operating?
National Audubon Society	Awareness & Advocacy	Uncertain- position continuously vacant
The Nature Conservancy (TNC)	Service Delivery	No
National Wildlife Federation	Awareness & Advocacy	No
Union of Concerned Scientists	Research, policy and education	No
Natural Resources Defense Council (NRDC)	Awareness & Advocacy	No
The Wilderness Society	Awareness & Advocacy	No
Environmental Defense Fund	Awareness & Advocacy	No
Humane Society of the U.S.	Awareness & Advocacy	No

Table 2: Environmental Organizations Operating Population Programs, December 2009

Organization	Type of Population Program	Currently Operating?
World Wide Fund for Nature (WWF)	Service Delivery	Yes
Conservation International	Service Delivery	Yes
Jane Goodall Institute	Service Delivery	Yes
Center for Biological Diversity	Awareness & Advocacy	Yes
Sierra Club	Awareness & Advocacy	Yes
Izaak Walton League of America	Awareness & Advocacy	Yes
Worldwatch Institute	Research, policy and education	Yes

[34] Personal conversations with former Pew employees. Multiple foundation donors and environmental NGO program managers confirmed these events.

Earth Policy Institute	Research, policy and education	Yes
Environmental Change and Security Program	Research, policy and education	Yes

There are many reasons given for the shifts in population-environment programs over time. From many donors' perspectives, the lack of sustained programming on environmental organizations' part is due to a lack of effective leadership within organizations, and a lack of real commitment to doing integrated work across program sectors. One foundation donor, who was once a strong proponent of strategic partnerships between environmental, population and sexual and reproductive health NGOs, described the failure of integrated models at length, with some frustration:

> "Some funders offer a lot of money to nonprofits and ask that they do this work. Nonprofit organizations take the idea of connections between population and environment, but don't really get behind it. This rarely works. The ownership is still with the funder. Funding a multisectoral program is hard because of the way our funding streams work. Sometimes we ask organizations to work collaboratively across sectors, but it never works!! [says emphatically]. They speak different languages, think different thoughts, have different priorities. As a funder, you can want to be a matchmaker, but very few of the matches work…"

For some donors, the failure of these programs raised questions about the lack of connection between donors who set agendas before pursuing grantees, and the grantees who are expected to implement the work:

> "We're still in kindergarten when it comes to finding the connections, frameworks, models and prototypes that might actually move things forward. Foundations need to better engage groups across sectors in framing questions, not assuming that they already have all the answers. The problem with foundations is that they are ego-driven. They think they have all the answers and can do strategic planning on their own. They don't get enough input/feedback from their stakeholders; they don't engage stakeholders enough in the process of strategic planning… Foundations vary in this regard. Pew is likely to be more proactive with what it wants groups to do with its funds. In general it's not normal or common for foundations to be directive or proactive in this way. However, we sometimes use the RFP process to ask specific programs to apply for funds. Specific to population-environment, foundations tend to have a hard time finding grantees who want to do it. If an organization takes this issue on, they run the risk of alienating other donors. The reluctance stems largely from trying to protect the funding base and trying not to lose any other sources of funding."

At the same time, the reason why many environmental NGOs became involved in population programs in the 1990s is a crucial component of why they were not sustained over time. Encouraging NGOs to partner across sectors and develop new strategic alliances with

women's sexual and reproductive health organizations was a practice that donors could only sustain when the encouragement was buttressed by unsolicited funding. Once the funding for these integrated programs dried up, fears of controversy, mission drift and lack of organizational commitment and leadership led many environmental organizations to immediately abandon their programs (Sasser 2009). A former donor noted:

> "Prior to my arrival, [our organization] had an active grants program to link population and the environment, bringing in family planning organizations. Population and family planning was the linkage at the time. In a financial crunch in 2001 that program was dropped. It was rough; environmental groups didn't want to be forced to deal with these issues. They felt it was a political hot potato and they felt they were being used by the family planning groups, and I think they were… foundations have dropped this work because of reduced funding and because foundation funding is siloed. Population divisions and environment divisions may not be working together. They're currently asking themselves how to break down the siloes, but they still need to figure out how."

Creative financing did accomplish foundation donors' objectives work for a period of time, primarily from the early 1990s until the beginning of the new millennium, when the economic downturn in the Silicon Valley led to reductions in funding for integrated programs. At the same time, Silicon Valley and other private foundation funding had been mobilized to respond to downturns in public funding for population-environment programs after international family planning programs fell out of political favor in the U.S. Aside from filling the gaps in integrated funding, public and private donor institutions have shared informal relationships that have facilitated a role for private foundations in influencing U.S. foreign policy on population and family planning. The final section of this chapter explores these complex and shifting relationships through an analysis of publics, private institutions, and the limits of accountability.

Part III: Making Policy: The Roles of Public Agencies and Private Foundations

Despite strong personal sentiment and access to a powerful network of development actors with access to significant financial resources, not all donors are able to use their influence to help produce the kind of scientific data they deem necessary. Donors at public agencies in particular face constraints that private donors do not, due to extensive bureaucratic and administrative processes requiring the buy-in of publics and politicians. The competition in this arena is fierce, and not limited to contestations over the dissemination of capital. Rather, what is negotiated in the process of allocating funds for U.S. government policies is a complex mix of moral perspectives, personal and social passion/interest areas, individual relationships and favors, as well as the currents of public sentiment (Corson 2008). These elements combine to exert a significant influence over the availability, allocation and distribution of international development funds. Despite the divides in public accountability and constraint in funding areas, public donor agendas do have an influence on private donor activities. At times, public and private donors have formally partnered on population-environment interventions, as this foundation Program Officer noted:

> "There was some momentum- we partnered with USAID; Summit and Compton both started work in this area. It was a really exciting time in the field; organizations that hadn't done this work before were starting to...There was a growth in the field, and we were a big part of that. We left the field after the downturn of the stock market in 2003-04. Without [our foundation] in the field, the field really changed. You need a leader in the foundation world. [Other private foundations] don't do much, but they mainly do advocacy. USAID has hung in there. We were cut because this was an initiative, an experimental program, a 5 year initiative, it was easier to cut my program than others because experimental work that crosses sectors is the first to go. This one went first because it was experimental."

A senior Program Officer foundation argued that while formal relationships of accountability do not exist between public and private donors, these relationships do manifest informally through constant observation of trends in public funding and policy approaches:

> "Foundations are unique and idiosyncratic...Not only does USAID receive directives from congress but also from the Executive Branch, which selects the USAID Administrator. In the absence of congressional directives, the Administration ends up directing how USAID directs funds. Private foundations are corporations with boards of directors, including determining how money is spent, who receives it, and for what. They determine this through a process of board meetings. There isn't any role for public participation, but this is different at community foundations. If an administration has a perspective that is strong on international family planning one way or another, foundations pay attention to that. We must think and plan strategically for how to spend money in the face of government resistance to something, so we may put money into private organizations that do certain work that the government has defunded. If an administration has been voted in that shares the perspectives of a foundation, we must still be strategic in thinking about how to do work that is complementary to the public work being done. We also make sure research gets before policymakers in particular subject areas, especially with an administration that you believe would respond if they were alerted. Most foundations that have strategies and well articulated goals that pay close attention to publics' and administrations' sympathies…"

Yet, there are clear borderlines between the work of public and private donor institutions. Government agencies like USAID have a publicly funded mandate, with budgets and support for program initiatives coming from Congressional legislators who determine the direction of foreign policy through line items in omnibus funding bills. Although unable to directly influence this process, population-environment donors in foundations exert creative influence through funding advocacy groups that lobby Congress members on population issues:

> "USAID doesn't answer to us, so as a private foundation you can't go to USAID and say I'd like you to do this. We can do things can raise public awareness which leads to letter writing and phone calls, etc. which would then feed back to USAID via Congressional representatives."

In addition to positioning themselves as scientific actors, private foundation donors are able to use their access to capital as a means of engaging in politics without public consent (Page 2007). Private foundations are not subject to any formal measures of public accountability aside from legal codes and tax structures, and ultimately their bottom line of responsibility is to their boards and organizational missions, providing them with a sense of unfettered power in shaping what often come to be known as the highest quality international development strategies and knowledges in the arenas of global health and environment (Page & Valone 2007; Dowie 2001). A crucial difference between projects funded by private foundations and public agencies, such as USAID, is that various publics have the opportunity to participate in program development and implementation. Whether through electing Congress members with particular political stances or established voting records on international and domestic population issues, or through direct advocacy via Congressional lobbying, publics have multiple opportunities to participate in decision-making around U.S. foreign policy on family planning. In the context of private philanthropy, this public participation is removed, leaving the role of arbiter of the validity, acceptability and desirability of science to the donors themselves. In a certain respect, this makes sense: private foundations are set up for the purpose of directing private capital, subject to the discretion of the individuals designated by foundation leadership, thus providing more flexibility and creativity in the funding and creation of more innovative programs.

Currently, the hope among certain foundation donors is that population-environment linkages will be revived in the context of climate change. As Pamela's case demonstrates, there is considerable interest among some private donors for more engagement on these linkages, particularly in the context of continued production of population-climate science. However, this is currently an area of divergence between USAID and its private partners; at the moment, USAID does not fund programs in this arena and is not planning to do so. A donor in the Office of Population and Reproductive Health at USAID remarked on population and climate change linkages that:

> "It's not a USAID priority. The science isn't there; it hasn't conclusively proven what the outcomes of climate change will be, thus it's hard to develop effective responses. There are two reasons why conservation organizations are not doing additional climate change and population work: 1. They say they're already doing it via Population-Health-Environment programs; 2. Funding for climate change adaptation work has been really limited."

Conclusion

What appears at the outset to be a resurgence in the production of environmental science and advocacy linked to global South population growth is more closely associated with shifting

trends in donor funding, politics, and creative funding. The contemporary moment is witnessing a shift away from population advocacy led by environmental NGOs, and a stronger emphasis on funding scientific research on which advocacy can be based. In other words, what may appear as a larger shift in population-environment work by scientists and NGOs is less a reflection of public sentiment than one of shifting, but ongoing donor prioritization. Although there is currently less money available for population-environment programs among public and private donor institutions than in the early to mid-1990s, an increasing focus on climate change is renewing donor interest in this arena. Donors are becoming interested in funding this work, asking other donors to become interested in doing the same, and they are engaging in creative financing based on personal and scientific priorities. The next chapter demonstrates the end results of donor co-production in action, through further analysis of new studies being produced at the population-climate nexus, and the implications they raise within international development.

Chapter Six

Anticipating Futures: Demographic-Climate Scenarios and the Politics of Avertability

"Preparedness is infinitesimally possible and infinitely malleable when one has a good working model of an anticipated 'future.'" (Adams, et al., 2009; p. 247).

Introduction

This chapter focuses on a series of scientific projects currently being produced at the intersection of demographic change and global climate change science, and the policy advocacy projects they enable. It explores the ways that scientific projections of future climate change and global population growth, produced under conditions of scientific uncertainty, are drawn on by advocates to develop political and social advocacy projects. These scientific entanglements and political strategies combine to produce a specific form of future-based knowledge, which advocates then translate into strategies for *anticipatory politics*- the range of political projects devised to produce particular futures from a range of multiple possibilities. In this case, an ever-warming climate and growing global population are communicated to relevant stakeholders through scientific projection models based on uncertainty. These models and the anticipatory politics they mobilize call into question the relationships between current knowledge and future change, centered on the role of women's fertilities in global South countries. As a result, advocates attempt to reduce uncertainty and prevent what they see as environmentally dystopian outcomes through population advocacy.

There are three sections to this chapter. The first lays out the concepts of anticipation, anticipatory knowledges and the political projects which arise from them. Drawing on these frameworks helps to situate a spate of recent scientific studies linking demographic change to climate change through forecasts of anticipated climate futures spurred by shifts in population trends across world regions. Section two provides observations from a research briefing bringing scientists together with foreign policy advocates, and analyzes the roles of scientific knowledge, expertise and uncertainty in crafting development strategies. The final section addresses emergent ethical questions raised by assertions linking averted births with averted greenhouse gas emissions. An analysis of the ethical implications raised by these arguments, and the potential political projects they justify, illuminates the salience of climate change debates in attempts to revive longstanding debates on the importance of population interventions to promote global environmental sustainability.

Section I: Anticipation and the Politics of Future Knowledges

Charts, graphs and other models that project possible futures can be described as anticipatory knowledges, or "tools of (more or less) informed speculation [which] are used to imagine possibilities, appreciate potentials, estimate probabilities, sketch trajectories, and frame choices" (Nelson, et al. 2005: 546). Nelson, et al. argue that "observers often perceive the resulting knowledge as a precarious mixture of fact, conjecture, and fantasy" (p. 546), mobilizing a range of affective responses in relation to the possibilities, problems and potentials offered by

such knowledges of the future. How do anticipatory knowledges manifest beyond the initial act of representation? Do they produce certain futures, even as they claim to simply represent them?

Sabine Höhler's (2005) analysis of population growth models produced by population biologists, human ecologists and early demographers (seen in chapter 2) argues that the production of these models provides a window into the historical production, circulation and stabilization of knowledge of human population growth. She argues that these models ultimately produce that which they claimed to represent, i.e. an ever-escalating population growth curve. The logistic growth curve, or S-curve, in particular helped to produce the concept of global population growth which could be forecast in a singular model. Because this curve is based on a simple mathematical model, its uptake and use by ecologists and demographers naturalized the model into a law supported by natural scientists, the population growth curve has been stabilized as a *natural* law, rather than a socially produced one. This framing in turn naturalizes international efforts to limit population growth in impoverished countries: "framing the situation as an arithmetic problem of distributing the wealthy nations' limited stocks preferred a mathematical to a political solution. Within this frame of discourse, the application of triage could appear as a reasonable discourse" (Höhler 2005: 15).

Gusterson (2008) makes similar claims in his exploration of nuclear warhead technologies, arguing that any policy decisions based on anticipatory knowledge serve as ways of bringing new futures into being: "Anticipation, then, takes on a Heisenbergian dimension as a form of knowledge that not only *guesses* about events in the world but *directs* them in unintended but unavoidable ways. In such a situation, the knowing guess is never innocent." (Gusterson 2008: 558, emphasis added). I do not suggest that demographic projections produce exactly that which they represent, but rather that they construct a concept of ever growing populations on a global scale, which must be intervened on to halt rampant growth. This concept of relentless global growth is in direct contrast to data indicating a fragmented, contradictory picture of population growth in some regions, contrasted with a plateau or even decline in other regions. Nevertheless, the multiple possible futures represented in demographic projection models invoke both the ideas of promise and of threat. Jasanoff describes the alternating possibilities invoked by new technologies as a precursor to the development of regulatory efforts that position potential effects of these technologies as either "familiar and manageable, or on the side of the unknown and perhaps insupportably risky" (Jasanoff 2005, p. 139). Hope and fear, promise and threat- these affective orientations to possible future technologies, social conditions and ecological outcomes are solidified through anticipatory knowledges.

Drawing on Adams and colleagues' (2009) understanding of anticipation as an affective state that orients present action toward possible futures, I argue that population-climate activists orient their activism in the present as if the possible outcomes they hope to stave off are already, in a sense, here. Adams, et al. argue that "anticipation is not just betting on the future; it is a moral economy in which the future sets the conditions of possibility for action in the present, in which the future is inhabited in the present" (p. 249). The active and flexible link between tangible present and possible future helps to "work through anticipation to create the sense that the future is inevitably in some senses *already 'here'* as a site for active intervention. It must not only be engaged, but also be engaged properly and effectively to avoid traumatic outcomes" (p. 249). For population-climate advocates, the twinned futures of climate change and rapid

population growth are very much in the present, orienting the development of scientific knowledge which can be taken up by American activists working to stave off highly populated, environmentally dystopian futures. In so doing, advocacy strategies attempt to produce alternative futures characterized by widespread contraceptive use, population decline, and reduced greenhouse gas emissions.

Anticipating Climate Change

The Intergovernmental Panel on Climate Change (IPCC) defines climate change as "a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity." (IPCC 2007: 30). Measured over a period of decades or even centuries, climate changes differ from changes in weather due to the time scale of changes in longer term weather patterns over time. Global average temperatures have shown fairly consistent warming, with few exceptions, over the period from 1850 to the present, particularly in areas at the equator, the arctic and in urban centers (Hansen, et al. 2010, Hansen, et al. 2006; Houghton 2005). These changes are particularly focused in areas with higher densities of human populations, including highly populated urban areas, coastal zones and arctic zones with high snow pack (IPCC 2007). The warming trend continues to intensify, as demonstrated in recent reports identifying the first decade of the 2000's as the hottest decade in the global record (Arndt, et al. 2010).

Although the term climate change refers broadly to changes in weather systems observed over a period of time, much of the change in the global climate has focused on the greenhouse effect driving global warming. Driven largely by the combustion of fossil fuels, as well as land use changes such as loss of forest cover and agriculture, the greenhouse effect refers to a process of atmospheric warming that results when the sun's rays reflect from the Earth and are trapped in gases accumulated in the troposphere, at the lowest levels of the atmosphere (IPCC 2007). Although it is necessary for a certain amount of the sun's heat to be trapped in the troposhere in order to support life on Earth, the levels of heat currently trapped have risen steadily and dramatically since the Industrial Revolution, when the combustion of fossil fuels first became a central component of industrial production. As a result, preventing the emission of carbon dioxide, methane, chloroflorocarbons, and ozone precursor gases that drive the greenhouse effect (also known as greenhouse gases) serves as the focal point of efforts to mitigate, or prevent the advancement of, climate change (Houghton 2004).

Measured on a time scale of decades or even centuries, climate change is a phenomenon that is most often represented as a set of large scale environmental changes that unfold over the long term. For example, data in the IPCC Fourth Assessment Report (2007) attesting to the veracity of current climate-based changes in sea level rise, temperature increase at various latitudes, and increasing intensity of tropical storms and cyclones frequently invokes comparison data from a time period ranging from 1850 to the 1960s. In this context, change is only knowable over the long term, invoked via both broad historical trajectories, as well as projections modeling future trends. As such, climate change science can be described as both past and future science,

which policymakers interpret with an emphasis on influencing social behavior in the present. Jamieson (1988) distinguishes between these temporal framings through the future-orientation of large-scale computer-generated models, such as the General Circulation Models (GCMs) as contrasted with scenarios of possible futures generated on the basis of historical analogues. In both cases, Jamieson argues, making projections (which he likens to predictions) about futures that have not come to pass is often akin to fortune telling. Predictions of the future are never neutral, as they call up the opportunity to produce those futures or to prevent them. Depending on *who* models the future and the values that are embedded in them, these future models may be viewed as hopeful or profoundly dystopian. When those visions are dystopian in nature, policy responses may be mobilized to prevent them from coming into being, as in the case of Australia's greenhouse gas emissions policy (Henman 2002).

Climate change occupies a curious place in the realm of scientific knowledge production, in that its physical science, mitigation strategies and adaptation measures are often communicated through the lens of moral debates. For example, the 2009 Climate Congress Synthesis Report (Richardson, et al., 2009), a document synthesizing recent climate change science by 100 researchers, to update climate science research developed after the most recent Intergovernmental Panel on Climate change (IPCC) assessment report in 2007, makes this statement about the importance of climate change research:

> "Past societies have reacted when they understood that their own activities were causing deleterious environmental change by controlling or modifying the offending activities. The scientific evidence has now become overwhelming that human activities, especially the combustion of fossil fuels, are influencing the climate in ways that threaten the well-being and continued development of human society. If humanity is to learn from history and to limit these threats, the time has come for stronger control of the human activities that are changing the fundamental conditions for life on Earth." (2009: 6).

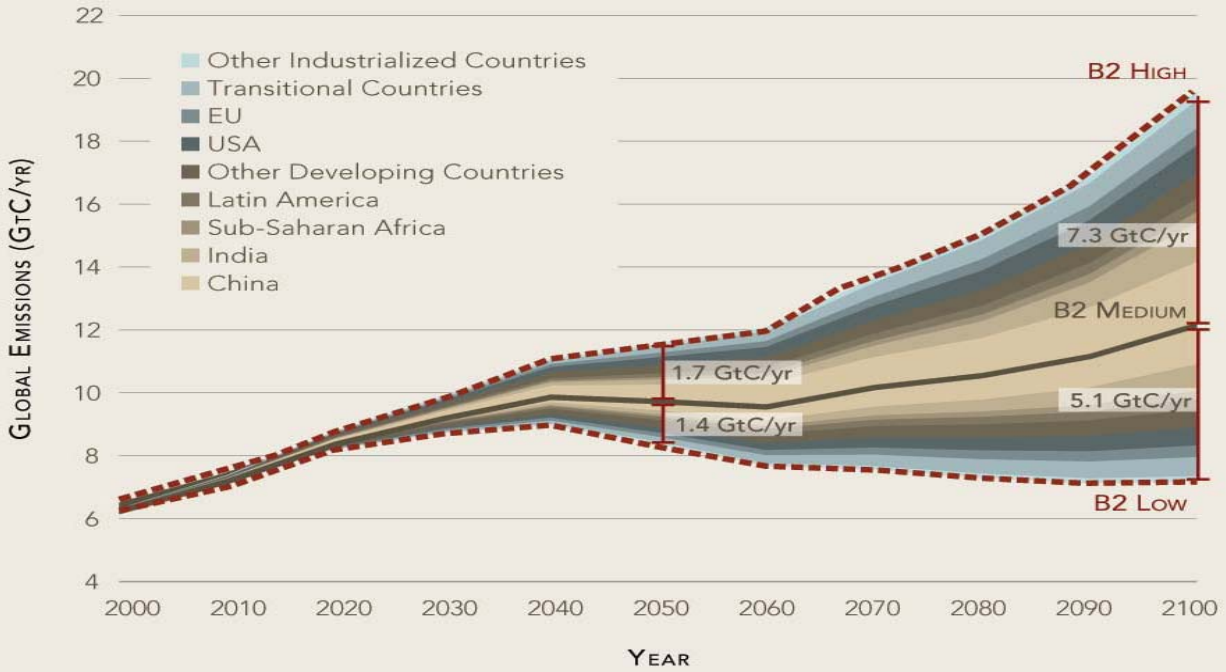
The report goes on to describe six key messages that are integral to "provid[ing]…an update of the newest understanding of climate change caused by human activities…", grouped under the headings of climatic trends, social and environmental disruption, equity dimensions, long-term strategy, meeting the challenge, and "action is inexcusable" (2009: 6). As this and other reports demonstrate, responses to climate change invoke a moral imperative to assume a position of individual responsibility and ethical environmental action (Jamieson 2006). In this mode of understanding, current actions take on a sense of urgency, particularly in relation to multiple possible futures ranging from the optimistic to the profoundly dystopian. This perspective is not new- rather, it draws on familiar ideas of impending environmental apocalypse, which exploded in the U.S. in the middle of the 20th century. American environmental NGOs have been particularly vocal in raising the alarm on global South population growth as a significant driver of future greenhouse gas emissions and increased climate change. In 1997, the newsletter of the National Audubon society proclaimed that "two trends are driving the growth in worldwide greenhouse gas emissions- economic progress…and rapid population growth" (Harwood 1997: 1). Describing "rapid population growth" as a proxy for rapidly increasing demand for fossil fuels and other sources of energy, the report argues that

"future projections of population growth portend significant increases in greenhouse gas emissions", leading the author to conclude that "meeting the energy needs of 10 billion people at the per capita level of industrialized nations in 1990 would require a 600 percent increase in global energy use from today", an increase in production that would render much of the globe uninhabitable (1997: 1). The first decade of the 21st century witnessed a notable increase in scientific articles, white papers and NGO reports on the role of population stabilization in preventing future climate change, a trend which shows no sign of slowing. The next section reviews three key studies in this vein to understand current directions population-environment science is taking.

A Tale of Three Studies

The years 2009 and 2010 witnessed the production of three key articles proposing projections about the future relationships between population growth and greenhouse gas emissions across the globe. The first, published in the *Proceedings of the National Academy of Sciences*, or PNAS, was based on analysis conducted by a group of scientists working at the intersection of climate science, demography and economics (O'Neill, et al. 2010). Decrying what they view as a sizable gap in the climate change literature, the paper's authors argued that their study was the first to "explicitly investigate the separate effect of demographic influences on emissions" (O'Neill, et al. 2010: 1). Working at a global level, they analyzed an integrated set of projections focused on economic growth, energy use and emissions scenarios, disaggregated by world region, to project population growth and greenhouse gas emissions in one model. Through the use of this model, researchers in the study produced a forecast of United Nations population growth trends, energy use and consumption patterns, and large scale economic changes encompassing nine global regions [Figure 4]. The authors analyzed data on household size, aging, and rural-urban split for households in 34 countries worldwide, representing 61% of the global population, in order to make projections about the future economic and energy use behaviors of households around the world:

Figure 4: Carbon Emissions and Population Growth, 2000-2100



O'Neill, et al. 2010

According to the model used, households affect greenhouse gas emissions in either of two ways: through direct resource consumption patterns of household members, or indirect impacts on economic growth, through labor supply, labor productivity, savings and consumer spending. The study's conclusions were two-fold: first, that changes at the household level based on urban migration and aging, can have alternating effects on greenhouse gas emissions and climate change, as urbanization may increase economic productivity and emissions, while aging has the opposite effect. Second, the authors concluded that population growth overall has a long term impact that increases future greenhouse gas emissions: "By the end of the century, the effect of slower population growth would be even more significant, reducing total emissions from fossil fuel use by 37–41% across the two scenarios." (2010: 5).

There are two crucial assumptions built into the study that make the conclusions regarding population trends and greenhouse gas emissions possible. First, the assumption that energy use, resource consumption and national economic growth exist in direct proportion to population growth, such that population growth in a given region will lead to proportional growth in resource consumption and technology use. Second is the assumption that a reduction in population growth anywhere will lead to corresponding reductions in greenhouse gas emissions. According to O'Neill, et al.'s conclusions, because population growth is most rapid in global South countries, particularly those in sub-Saharan Africa and South Asia, interventions to promote universal access to contraceptives and slow population growth in those countries offer co-benefits to climate change mitigation efforts, which they and others describe as a 'win-win' strategy (O'Neill et al. 2010; Mazur 2010; O'Neill 2010).

These assumptions are challenged by two alternative studies that offer markedly different perspectives on the relationships between demographic change and greenhouse gas emissions. The first study analyzes what it refers to as the 'carbon legacies' deriving from individuals women's reproductive behavior (Murtaugh, et al. 2009). The study's authors trace individual fertility by "explor[ing] the effects of an individual's reproductive behavior by tracing a single female's genetic contribution to future generations and weighting her descendants' impacts by their relatedness to her", applying this analysis to "emissions of fossil carbon dioxide with the goal of quantifying the carbon legacy of an individual and examining how it is affected by the individual's reproductive choices" (2009: 14). Current individual fertility rates are selected for a range of countries with high, medium and low yearly population growth, and juxtaposed against per capita, or individual, greenhouse gas emissions for those countries.

Over a period of generations, the study analyzes the individual childbearing of all future female progeny descending from a single female ancestor and juxtaposes it with projected greenhouse gas emissions to asses "the total emissions attributable to the ancestor, or her carbon legacy" (2009:15). The resulting graph [Figure 5] demonstrates that there is generally an inverse relationship between individual childbearing and per capita greenhouse gas emissions; in other words, countries where women bear the fewest children are most often those with the higher rates of per capita greenhouse gas emissions, and the highest carbon legacies. For example, according to the model, the average American woman's carbon legacy (lifetime emissions of each woman and her future progeny) is more than 85 times that of an average woman in Nigeria (Murtaugh 2009), a country with a much faster population growth rate than the U.S.

Figure 5: Per Capita Emissions and Carbon Legacies for Select Countries

Country (abbreviation)	Per capita emissions (t person^{-1} year^{-1})	Average emissions (t)	
		Ancestor's life	Added per child
China (C)	3.62	311 (183, 383)	1384 (228, 2023)
India (Ia)	1.05	70 (52, 85)	171 (87, 231)
United States (US)	20.18	1644 (883, 2030)	9441 (562, 12730)
Indonesia (Io)	1.29	110 (76, 135)	380 (143, 627)
Brazil (Br)	1.83	148 (97, 182)	721 (207, 1006)
Pakistan (P)	0.67	50 (42, 61)	205 (128, 273)
Bangladesh (Ba)	0.27	18 (18, 24)	56 (56, 94)
Russia (R)	11.70	883 (492, 1082)	2498 (295, 3497)
Nigeria (N)	0.75	41 (34, 51)	110 (73, 157)
Japan (J)	9.91	840 (453, 1047)	2026 (233, 2829)
Mexico (M)	3.67	291 (172, 360)	1241 (222, 1800)

Murtaugh, et al. 2009.

The basic premise of both this study and the previous one is that the drivers of greenhouse gas emissions can be located in women's fertilities. Unlike the previous study, which located the population-fertility drivers of greenhouse gas emissions in global South bodies, this study expands this framing to locate emissions trends in *all* women's bodies and reproductive behaviors. In the context of this study, greenhouse gases are not produced through social and economic behavior, but rather solely through the reproduction of surplus people.

A third study produced during the same time period provided a markedly different analysis. Titled, "The Implications of Population Growth and Urbanization for Climate Change" (Satterthwaite 2009), this paper conducts an analysis of population trends, urbanization and resource consumption patterns at a global level to argue against the proposition that population growth drives climate changes. Exploring the specific patterns of population growth in global South countries, including those countries with the most rapid growth patterns, the author demonstrates that even urban population growth in global South countries does not increase greenhouse gas emissions because growth is primarily limited to impoverished communities in urban slums. Rather, the paper argues that "it is not the growth in (urban or rural) populations that drives the growth in greenhouse gas (GHG) emissions but rather, the growth in consumers and in their levels of consumption" (2009: 545). The author argues that greenhouse gases are not emitted by 'people' in general, but by specific activities engaged by particular groups of people, often determined along class lines. In global South countries with rapid population growth, those in more privileged classes are most able to consume resources such as fossil fuels for vehicles and household electricity, making high level per capita greenhouse gas emissions primarily the domain of the affluent. Ironically for population-environment advocates, these are the very people whose fertility rates are lowest.

Despite their divergent approaches, methods and conclusions, one element that these studies have in common is their preoccupation with the question of the significance of human population growth to climate change, as well as the implications of population interventions for mitigation efforts. Their policy implications move in two directions, one focused on population growth in industrialized nations, and the other two focused on more rapidly growing global South countries. In all cases, however, it is important to note that a certain reductionist perspective is key to thinking about population and climate change. When population is articulated as a key driver of greenhouse gas emissions, population interventions focused on the most rapidly growing countries are a logical outcome. These reductions are common in policy advocacy communities, where reducing complexity and uncertainty, as well as simplicity of approach, are key components of achieving policy success.

Section II: Mobilizing Science for Policy

In the spring of 2010, a workshop held at a Washington, D.C. policy and research think tank presented the results of Dr. Brian O'Neill, et al.'s study of population projections and greenhouse gas emissions[35]. Dr. O'Neill opened the session by telling his audience that he would be sharing long-anticipated findings demonstrating what he saw as a clear connection between population growth and greenhouse gas emissions, both in the present and the future. In his slide presentation, he pointed to a set of graphs he and colleagues had produced: specifically, a set of carbon emissions scenarios based on a synthesis of data from the Intergovernmental Panel on Climate Change's (IPCC) Special Report on Emissions Scenarios, as well as the United Nations projections of human population growth to the year 2050[36]. When analyzed together, the probabilistic projection models from IPCC and the UN form a smooth, integrated image, a

[35] The PNAs study mentioned in the previous section.
[36] Intergovernmental Panel on Climate Change. 2007. "Special Report on Emissions Scenarios."

forecast of several variants of emissions and population growth scenarios that generates several alternative visions of multiple possible futures of population size and emissions levels.

Offering a description of the relationships between consumption patterns in industrialized nations, changing household sizes, and what he termed 'compositional factors' in population growth, O'Neill argued that over the next hundred years human population growth in countries of the global South will become a significant source of greenhouse gas emissions. He also argued that his results demonstrate that population aging can lead to 1-2 billion fewer tons of carbon emitted over the next hundred years, while rural to urban migration, primarily in global South countries, will add between 1 and 4 billion tons of carbon to the atmosphere. Ultimately, O'Neill concluded that the primary effects seen in the model are the result of global urbanization, rather than overall population growth or size.

> "At the aggregate level, slower population growth can't solve the climate problem, but it can help. The effect is significant and noticeable. Usually the discussion is polarized; this is an in-between result. Population is neither a zero effect, nor the total effect, but does make some difference. Slower population growth could contribute significantly to emissions reductions, but it will not solve the problem, nor is it a main factor. You can't force fit that into a model."

This response was likely not what the policy advocates in the audience were looking for, as it reflected a certain level of ambiguity in the role of population stabilization for slowing climate change. More importantly, when O'Neill did make clearer assertions of the relationships between overall population size and future emissions, they ran counter to the expectations of the assembled audience. He stated that,

> "One of the reasons for doing this analysis is that it's not just population that matters, it's consumption and economic growth. Those factors are more important in our country and other developed nations. Population growth is a bigger factor in developing nations, but those are areas that *currently and in the future* have relatively fewer emissions…the blue (developed country) areas account for a disproportionately large fraction of the difference in emissions because they have higher consumption levels and higher per capita emissions *throughout the century*. The contribution from developed countries is very large, much bigger than some would have you believe. There's a relatively small change contributed by population changes in developing countries." (Italics added)

However, a focus on the present was not the ultimate aim of the presentation. Rather, O'Neill used his findings to argue that reductions in population growth, achieved via advocating for increased global access to contraceptives, could serve as a significant means of reducing *future* emissions, roughly the same as achieving a reduction in all deforestation by half[37]. Why, in light of the conclusions he had drawn between urbanization, consumption patterns and

[37] This is based on the argument that providing universal access to contraceptives could serve as a significant portion of a package of multi-sector interventions to reduce future greenhouse gas emissions, extrapolating from Socolow & Pacala's model of 'climate wedges' (2004).

polluting technologies, would O'Neill conclude with an argument against population growth? In order to fully understand his conclusions, it is necessary to situate the population-climate data he produced within the larger population-advocacy network in which his research circulates. This advocacy network links donors with scientists, NGO program managers and youth and community activists, in pursuit of a singular goal: increased international family planning budgets, in the name of reducing population pressure on resources. That the resources described in this research are consumed disproportionately by wealthy urbanites, primarily in the global North, is irrelevant in the context of O'Neill's research briefing. The workshop was designed to present information that could be used to support *pre-designed* advocacy strategies, namely youth activist trainings, Congressional lobbying visits, and blogging on population-climate linkages.

This case exemplifies one of the profound areas of disconnect between scientific evidence and program strategy in international development. While scientific knowledge is often produced and circulated to provide explanatory frameworks and justification for development intervention strategies, development practices do not always proceed from a basis in scientific evidence. Rather, development projects possess their own internal logics prioritizing the creation and extension of expert knowledge and a reliance on scientific and technical interventions to address social and political problems. (Li 2007; Mosse 2004; Mitchell 2002; Ferguson 1994). Knowledge production, thus, is always a political enterprise in the context of international development- and is often created independent of policy and program interventions. Goldman's (2006) study of knowledge production at the World Bank provides a useful analysis of how selective knowledge production and circulation practices is used to consolidate hegemonic power within development institutions. I extend this analysis to argue that this process is more diffuse than individual institutions, rather circulating throughout various development strategies and policies in the service of consolidating the power of development paradigms and narratives. In other words, dominant development narratives, such as the population-pressure-on-resources narrative, also serve as sites of the consolidation of hegemonic power in that scientific knowledge that complicates or subverts these claims will either be discarded, or reinterpreted in the service of blueprint interventions that support the dominant narrative (Roe 1995, Roe 1991). The next section turns to an example of how new demographic-climate knowledges are intersecting with long-held development narratives in the contemporary moment, raising significant ethical questions.

Section III: Averted Lives, Averted Emissions?

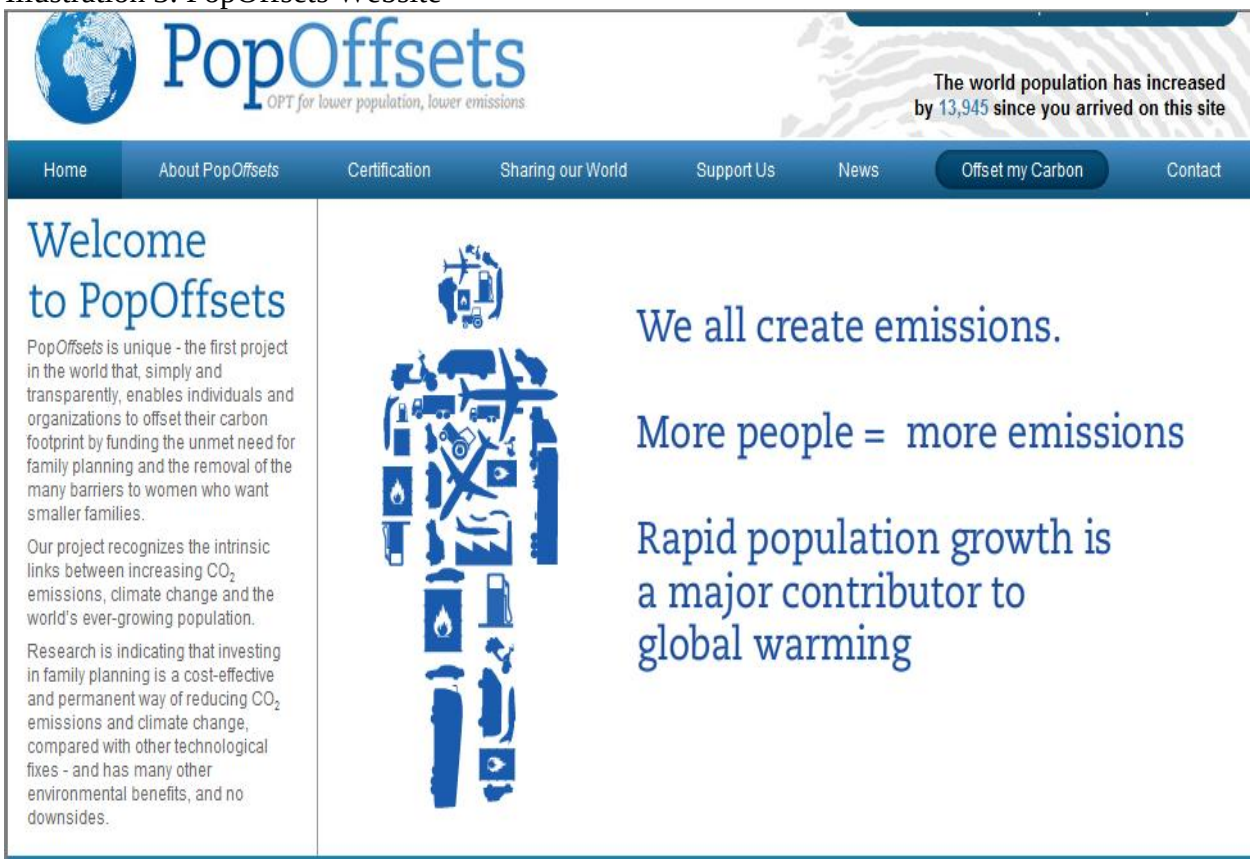
Why does a focus on numbers offer such a powerful claim to scientific authority? In the field of population science, "mundane tables, figures, charts, and equations" form the basis in which "population scientists, planners, and governors do some of their most important yet least studied work" (Greenhalgh 2005, p. 357). Numbers produced through population science serve as a domain through which one can understand how population science translates into governance of fertile bodies and modes of intervention into reproduction. Greenhalgh argues for an attention to "the social and political lives of numbers" (2005, p. 357), suggesting that in the realm of population science, they move beyond describing problems but come to structure interventions, as well as how those interventions are measured and represented. What are the other ways numbers are used to structure not only representations of knowledge, but also

interventions into human lives? Miller, et al. (1992), argue that a historical focus on budgeting and costing practices gave rise to accounting techniques, an apparatus of power which renders not just numbers, but people, more manageable. According to Porter (1995), the reliance on quantitative knowledge arose historically as a strategy among elites concerned with maintaining social authority and accountability. Numbers come to stand in for objectivity and trustworthiness as face to face social relations between elites and other social groups declined. In other words, numbers operate as central sites of power negotiations within techniques and modes of government, between nations, within nations, and across nongovernmental sites of intervention and exchange.

In late 2009, a British charity and think tank known as the Optimum Population Trust (OPT), launched a project website named "PopOffsets[38]". Proclaiming itself as the world's first project that "simply and transparently, enables individuals and organizations to offset their carbon footprint by funding the unmet need for family planning", PopOffsets offers consumers the opportunity to purchase carbon offsets credits through investments in family planning. According to their calculations, contributing seven U.S. dollars through the website provides family planning services to a community of rural African women via a relationship between OPT and a contraceptive-distributing conservation NGO in Madagascar. According to PopOffsets, filling the unmet need for contraceptives in the global South is "the lowest cost way of reducing CO2 emissions and climate change…without any environmental downsides." [Illustration 3].

[38] Accessed March 2011 at: http://www.popoffsets.com/

Illustration 3: PopOffsets Website



The claims made on the PopOffsets site are based on the results of a report released by OPT several months earlier (OPT 2009). The stated aim of this research project was to conduct a cost-benefit analysis of reducing global population growth on CO2 emissions, along with a secondary aim of assessing the cost effectiveness of providing universal access to family planning at a global level for carbon emissions reductions between 2010 and 2050. The author of the report ultimately concludes that fewer people on Earth will emit fewer tons of carbon dioxide. He arrived at this statement by estimating the cost of providing access to contraceptives to all women currently estimated to have an unmet need for contraceptives, and analyzing the results against a model in which UN projections of both future population and carbon levels were adjusted based on the assumption of meeting all global unmet need. From these models, he concluded that each $7 spent on family planning provision would reduce future greenhouse gas emissions by more than 1 ton (assuming all unmet need was met between 2010 and 2050). In contrast, the price of a 1 ton reduction achieved through the use of low-carbon technologies was equivalent to a minimum of $32 per consumer, a $25 increase over the cost of similar reductions achieved through family planning.

The assertions found in the OPT report and in the PopOffsets website are based on a particular calculus which assigns values to human lives, contraceptives and tons of carbon. This is based on a broader calculus of tradable offsets for carbon emissions, in which some other resource or commodity is valued as equivalent to a ton of carbon- and the logic is that investing in that alternative resource is equivalent to reducing or eliminating greenhouse gas-emitting

activities. The carbon offsets model was developed as part of the international climate treaty of 1997, the Kyoto Protocol, which established a mechanism for industrialized nations to invest in clean energy projects in the global South such as reforestation and biofuels plantation projects as a means of trading carbon credits.

These mechanisms are predicated upon a particular commodification of nature- one in which isolated forms of nature and humans become valuable, tradable, and equivalent to other isolated elements. What is different about the PopOffsets project is that human lives become part of the calculus, not through existing life, but through an assessment of the carbon-emitting value of avertable lives (Murphy 2009). In other words, not only are possible futures brought to bear with this analysis, but the carbon value of averted lives is calculated, assessed, and offered to Northern consumers as a means of offsetting their own polluting behaviors. This logic transforms humans into potential humans, potentially averted humans, and ultimately potentially averted emissions.

The logic of averted-humans-as-averted-emissions raises a host of questions about the power dynamics of how value in human life is assigned, to/by whom, and at what scale. To borrow a phrase from Murphy (2009), it reflects strategies of the economization of life, in which certain lives are deemed investable and others, expendable and avertable. In this case, avertable lives are only those in the global South. Given that the United States is an outlier in both high per capita greenhouse gas emissions and its rate of continuing population growth relative to other industrialized nations, the lack of an avertable-humans-as-avertable-emissions argument applied to a U.S. context seems to be a glaring omission. Despite this, averting births of Americans is not often proposed as a serious solution to climate change[39]. Making claims about the potential carbon reduction achievable through averted American life is a contentious issue, one that few members of the population-climate network are willing to take on. The argument is seen as politically untenable among pro-life religious conservatives, as well as those who charge that the issue is a smokescreen for environmentally-based anti-immigrant sentiment. As a result, none of my informants at the donor or NGO organizations promote the use of contraceptives in the U.S. as a direct means of reducing greenhouse gas emissions. As one informant noted when interviewed on this issue, “It’s just easier to focus on poor countries. Americans would generate so much controversy over a program like this, and we’d never get anywhere.”[40]

However, arguments about the emissions impacts of avertable life are not everywhere deemed unsavory. In December 2009, at the Copenhagen Climate Change Conference, a Chinese delegate, the Vice Minister of the National Population and Family Planning Commission, stated that "dealing with climate change is not simply an issue of CO^2 emission reduction but a comprehensive challenge involving political, economic, social, cultural and ecological issues, and the population concern fits right into the picture." (Hull 2009). Referring to China’s infamous one-child policy, the Minister argued that 400 million births had been averted in China,

[39] An American environmental NGO has developed a campaign to raise awareness of U.S. population growth and its impact on environmental outcomes. Known as the “Endangered Species Condoms” campaign (www.endangeredspeciescondoms.com), the project uses catchy slogans and artful packaging with statistical data to argue that American population growth, as a proxy for consumption of resources, threatens biological diversity. The messaging of the campaign is focused on a personal moral calculus, in which condom users are expected to weigh their childbearing decisions against the health and diversity of animal species, and to make sexual and reproductive decisions accordingly.

[40] Interviews with a representatives of a donor organization, and an environmental NGO

which she estimated as having saved 1.8 billion tons of CO2 each year. Claiming a moral authority on the basis of national policies leading to averted emissions, Zhao argued that China's population policy had provided benefits across sectors, and at a global scale. In this case, a state which has long been treated as somewhat of a pariah for its heavy-handed population policy is able to use the calculus in human lives to represent itself as environmentally responsible. The appeal to the averted-humans-as-averted-emissions calculus facilitates Chinese leaders' avoidance of the moral and ethical questions raised by the human rights abuses generated via its population policy, allowing coercive population control to emerge as an example of ethical environmental practice. Clearly, a calculus in human lives makes a variety of practices possible- from reducing moral and political arguments about the comparative worth of human lives into a set of calculable values, to providing a justification for claims of correct moral action. Ultimately, as ever, the importance of quantification of lives and resources comes to stand in for moral and ethical claims, masking larger questions of power and difference.

Of Numbers and Narratives

One question that often arises concerns why American population-climate advocates focus their efforts on reducing population growth rates in global South countries with relatively fewer emissions rates compared to industrialized nations. For many population-environment advocates it is simply easier to address population growth in developing countries, as this strategy offers a means of avoiding addressing racial and ethnic issues in American population debates. Nowhere have these debates been more prominent than in the U.S. immigration debate. As one long time population-environment advocate argues, "population is a political hot potato in American politics. No one wants to address U.S. population growth because that would mean addressing immigration, and we know what happened to the Sierra Club when they tried to do that. That was a cautionary tale to all of us."[41] What is viewed as the relative ease of constructing population growth as a problem and site of intervention in far off places forms an oppositional approach to a concerted non-intervention approach in the U.S[42]. This approach demonstrates one example of how power relations operate in the privileged sites in which international development policies and programs are shaped: notions of what is easy or difficult, politically feasible or not, often trump evidence-based approaches (Roy 2010).

Conclusion

As this chapter demonstrates, the tensions and contradictions found at the population science-policy interface are heightened by a focus on climate change as a problem of environmental, moral and ethical dimensions. While these engagements are rooted in historical debates about population-environment linkages, the current focus on scientific projections of multiple possible futures highlights the salience of development policy advocacy as a means of anticipating dystopian futures and preventing them from manifesting. In this context, the lines between science and advocacy are frequently blurred, organizing and reorganizing themselves around development agendas, priorities and pragmatics. I have argued that population-climate scientists, while ostensibly producing 'objective' knowledge, ultimately engage in forms of advocacy that

[41] Confidential interview.
[42] The reasons behind this approach are discussed in depth in Chapter 4.

make a range of anticipatory politics projects possible. While the effects of these projects continue to unfold in contradictory ways, exploring their underpinnings is a productive place to imagine new linkages between knowledge, politics, affect, temporality and ethical debates.

Chapter Seven

Conclusion

One morning in August, 2011, my e-mail inbox alerted me to a blog post on the Reproductive Health Reality Check website entitled, “I am the Population Problem.” Despite the title, I am now jaded on this topic (having read hundreds of articles and blog posts on the issue), and I expect the piece to proceed along familiar lines focused on global South women, empowerment, and the need to increase their access to family planning. However, the first paragraph stopped me in my tracks. It opened thus:

> “Both local and broad scale environmental problems often are linked to population growth, which in turn tends to get blamed on *other* people: folks in Africa and Asia who have "more kids than they can feed," immigrants in our own country with their "excessively large families," even single mothers in the "inner city." But actually the population problem is all about *me*: white, middle-class, American me. Steer that blame right over here.” (Hymas, 2011).

The piece went on to argue that American consumption of resources and use of environmentally polluting technologies does far more damage to the global environment than the fertility of poor women in rapidly growing countries like Ethiopia. Yet, immediately the author rooted American consumption practices in childbearing. Citing Murtaugh’s 2010 study of the carbon-producing legacies of the consumption practices of American and other women in industrialized nations (see Chapter 6 for an in-depth discussion of this study), the author stated that she is “just the sort of person who should not have kids”, opting instead to prioritize a GINK (“Green Inclinations, No Kids”) lifestyle as a conscious form of environmental activism.

The blog differed significantly from most mainstream articulations of population-environment linkages, such as those described in this dissertation. After being immersed in the population advocacy approaches adopted by ENGOs and their partners, I was shocked at the way the author reframed the relationships between population growth, environmental degradation, and personal responsibility in ways that placed the blame squarely on the shoulders of middle-class whites in the U.S. Yet, while this approach is anomalous in today’s advocacy community, it does not present a new framing of the issue: it reprises the historically entrenched perspective that an environmentally destructive ‘population problem’ can be located in the wombs of women, even as it emphasizes the outsized impact of American resource use. White American environmentalists have also long looked inward at the consumption practices among themselves and their local counterparts, advocating reduced resource consumption and technology use, and foregoing childbearing as an expression of environmentally responsible behavior (e.g. Ehrlich 1968). A prominent example of this approach was exemplified by the Zero Population Growth (ZPG) movement in the 1970s, which raised awareness of population-environment linkages and consumption practices among middle class Americans, as well as around the world.

Population issues are not often framed in the context of race-based analyses placing whiteness and privilege at the center of environmentally degrading practices, particularly not when these perspectives are authored by whites adopting a modicum of responsibility often conferred on poor global South 'others'. The blog was striking in its explicit invocation of race and class privilege —an emphasis which goes unnoticed in the readers' comments on the piece, many of which adopt defensive stances focused on personal choice. While the post received extensive attention both inside and out of the population-environment advocacy community, and the language on Northern consumption practices found its way into more youth trainings, none of the author's arguments have been incorporated into policy advocacy messages.

This dissertation has explored the various ways in which population-environment linkages have been articulated by environmental advocates, paying particular attention to developments in scientific knowledge, reproductive politics, and shifts in funding priorities among Washington, D.C. development agencies and private donor institutions. A central theme operating throughout this dissertation project is that science and political change do not operate in isolation from each other, progressing along separate, parallel tracks. Rather, they develop together, simultaneously, through overlapping entanglements and interactions of actors, funding resources, personal priorities and institutional agendas. In a context of diminishing resources overall, funding for population-environment science has increased, leading to more science-based advocacy.

Despite significant increases in public attention to and writing on population and environment, members of the advocacy network often feel beleaguered by what they view as an unreceptive American public. My research informants often described situations in which they were publicly challenged, often with open hostility, by people who refused to believe that global population should be addressed in any way. As a critical researcher, I experienced just the opposite, particularly during an academic conference when an irate ecology professor in the audience shouted me down, arguing that my critiques of the population-pressure-on-resources model promoted "dangerous" ideas. Regardless of the position, the relationship between population trends and environmental change remains a highly contentious issue, one in which, as one of my environmental NGO informants noted, "you get beaten up by the left and by the right". Expressing any opinion on global population issues invites potential backlash from anti-abortionists, neo-Malthusians, leftist academics and activists, feminist groups, and members of the SRHR activist community, depending on the opinion put forth. When I first began researching this topic, I discussed it with a fellow academic, who shifted uncomfortably in her seat as soon as I began speaking. "We're not supposed to talk about population…are we?" she asked, with a chagrined look. Apparently not, if we express views that are contrary to the perceived wisdom of our interlocutor. Unless, that is, we ground our arguments in science.

As I argued throughout the dissertation, scientific knowledge is widely perceived as a means of finding neutral support for ideas about population-environment linkages that are otherwise viewed as political or moral, and thus controversial. With a stronger scientific grounding, population-environment advocates find broader perceptions of legitimacy in their messaging work. In turn, this facilitates the broader circulation of frameworks linking population reductions and environmental sustainability through the dual lenses of scientific knowledge and women's empowerment. At the same time, the increasing concern about climate change within

the broader environmental and scientific communities, along with the proliferation of scientific studies and models projecting both greenhouse gas emissions and demographic population growth trends, provide advocates with useful tools for framing population-environment linkages as scientifically innovative and non-political.

Increasing scientific knowledge linking population growth with future climate change also facilitates the development of anticipatory politics strategies. Chapter 6 explored the social and political strategies ranging from influencing general opinion to lobbying Congress, based on potential demographic and climate futures, that I refer to as anticipatory politics. Through these strategies, projection models of what could potentially happen 40 or 90 years from now are dynamically brought into the present through advocacy messaging, strategically crafted to focus on the dystopian environmental outcomes that would result if foreign policy changes were not made. However, it is important to emphasize that the definition of advocacy in this context is highly dynamic and context-driven. Depending on whether the setting is a population-environment advocacy training or campus-based workshop, a research briefing, or a high level funders' network meeting, an advocate can be anyone from a scientist to a donor, a college student, or a long time Congressional lobbyist. Population-environment advocates occupy all of these positions and others, as members of population-environment advocacy networks frequently shift between institutional homes and positions within the broader network. Over the course of this project, the emergent dynamics of shifting network politics were less surprising than the multiplicity of forms advocacy takes, particularly from powerful actors. As Chapter 5 argues, the power wielded by private donors advocating for population-environment science and policy interventions from behind the scenes emerged as one of the most important influences on contemporary strategies in this arena. Private donors draw on individual priorities, use personal networks, and bear on their ability to direct large sums of capital to set the agendas of grantees, including scientists and NGO program managers. As a result, the shifting scientific and political discourses in this arena can often be traced to the private agendas of philanthropic organizations whose agendas are unimpeded by public accountability or democratic participation.

Avoiding Controversy

Over the past four decades, ENGOs in the U.S. have ridden the waves of fluctuations in funding, corporate opposition to environmental regulation, and disagreements over policy issues within their own membership (Dowie 1996). Over the years, those organizations that have also made forays into population programming, through advocacy, research or program implementation overseas, have seen a concentration of resistance and waning financial support, as well as strong ambivalence among both leadership and their membership bases, based on an aversion to involvement in controversial issues (Sasser 2009). As my interviews revealed, fear of being associated with abortion proponents, concern over a perceived sense of drift from organizational missions and priorities, and the harsh realities of generally reduced funding for population work have led many environmental organizations to abandon their previously operating population programs. At the same time, as Chapter 4 demonstrates, the issue of racial inequality in environmental and population debates has also served an important, and contradictory role, both pushing some ENGOs away from addressing population, as well as

inspiring efforts among others to shift the terms of the debate through utilizing social justice frameworks developed in the context of civil rights.

Some population-environment advocates have identified the social movement frameworks designed to respond to race and gender inequalities as opportune for their own projects. In the contemporary moment, when young activists are concerned with doing socially just work, and donors are interested in supporting reproductive justice and environmental justice projects, it makes sense that population-environment programs would join the bandwagon. As one private donor noted during an interview, "The reproductive justice legacy in the field is a strong positive one for most people, and therefore it's a good train to get on." Chapter 3 explored the ways social justice framings have been used as strategies to enroll a new cadre of youth population activists, while the progressive language often serves as a means of subverting histories of racialized and gendered reproductive abuse.

In the advocacy arena, messaging is everything. In order to effect a transition in the image of population-environment perspectives to a more politically progressive stance, it must deal with the racial controversies that have operated throughout much population thinking and population control policies. However, "dealing with" the racial legacy of population-environment is a difficult thing to do. It is easier to adopt the language of a progressive framework and move forward, rather than mine the critical depths of structural injustices and the role organizational interventions play in maintaining those structures. Unless and until population-environment organizations re-think their stance on population growth and women's fertility as a driver of environmental degradation and climate change, they will continue to co-opt the language of social justice movements while eschewing their politics, attempting to ride the train of progressive politics as far as it will take them.

Winning?

One framing of the issue that is increasingly gaining traction is that addressing women's unmet need for family planning is a 'win-win' approach for global population stabilization and efforts to mitigate climate change. In this approach, providing women the family planning services they need provides natural, positive side benefits, proving the necessity of technical interventions in the alleviation of complex social problems. As this dissertation project shown, this approach arose from seemingly unlikely partnerships between feminist women's health proponents, neo-Malthusian population interventionists and environmental scientists, developed from an historical necessity to maneuver international family planning within the constantly shifting politics of international development funding. Chapter 2 demonstrated through historical analysis that what is often articulated as a commonsense approach uniting women's health and empowerment to environmental sustainability goals is in fact the product of long term strategic engagements between groups of political actors with very different agendas, each with a stake in influencing population politics on a global scale.

As the history of global population and family planning politics has demonstrated, funding fluctuations are not out of the norm- rather, they reflect a deep ambivalence on the part of the U.S. government, and American constituencies in general, in funding international family

planning efforts. Whether characterized by resistance to protecting access to abortion, lack of prioritization of women's sexual and reproductive health services in general, or the prioritization of other areas of sexual and reproductive health such as HIV/AIDS prevention, family planning has long been declining in its priority status as a core component of U.S.-led international development strategies. Efforts to restore this sector to prominence in foreign aid have to date been unsuccessful, despite the renewed environmentalist emphasis on the 'population problem'. Where does this leave population-environment advocacy?

Conclusion

While the general future of population-environment advocacy is uncertain, one avenue in which advocacy efforts are growing is in transnational youth organizing. In efforts that build and expand on existing organizational frameworks and advocacy approaches, individual activist youth are building their own population-environment advocacy networks, drawing on social media technology as a basis for transnational organizing. During the Conference of Youth (COY) meetings just before the International Conference of Parties to the Kyoto Protocol (COP16) meetings (also known as the International Climate Change Conference) in 2010, youth from the U.S., Mexico, Philippines, Ethiopia and India convened a workshop on population and climate change. They drew on SRHR messages, youth environmental activism, and a sense of shared global responsibility in producing a better world, to argue that slowing population growth is a key strategy for climate change mitigation and adaptation. While their presentations were fairly simple, they demonstrated the transnational reach of women's empowerment and social justice messages as a linchpin of population-environment messaging. At the same time, they explicitly rejected neo-Malthusian perspectives as out of date with today's youth.

Youth advocacy in this arena is still freighted with inequalities in power, privilege and access. Regardless of whether emergent youth networks are transnational, it is still those youth who can harness the power of development paradigms, networks and advocacy spaces, that set the terms of the agenda. As a result, the vast majority of women whose reproductive rights are being advocated continue to be represented by powerful others who are out of touch with the complex realities and constraints that contribute to fertility and childbearing, and thus population trends, in the global South. At the same time, the emergent youth voices heard at the COY meetings continue to articulate a population-environment advocacy perspective which refuses to address global structural inequalities, including military- and corporate-led environmental degradation, corporate resource extraction, and the increasing entrenchment of poverty for women and families around the world. Population-environment advocates, whether youth or seasoned activists, whether in the U.S. or in transnational context, consistently avoid articulating these inequalities, because doing so does not lend itself to simple, policy relevant solutions. As a result, population-environment advocates' efforts will continue to search for strategic engagements divorced from the potential of effecting deep rooted structural changes.

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