

Environmental Sustainability as Leverage to Increase the Prominence, Legitimacy, and Funding of Global Reproductive Rights

Céline Delacroix

Thesis Supervisor: Dr. Angel Foster

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Faculty of Health Sciences

University of Ottawa

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Abstract

This thesis is based on the premise that reproductive rights and environmental sustainability have synergistic interests: human population growth increases environmental impact and access to family planning triggers reduced fertility levels. Despite increasing scientific evidence indicating that the size of the global population matters for environmental sustainability, and by extension, that fulfilling reproductive rights may be beneficial for the latter, the linkages between reproductive rights and environmental sustainability have been largely understudied, ignored, and left out of environmental policy and reproductive rights agendas. Because of the complexity of this interdisciplinary field and its associated ethical questions, many researchers and policy makers have chosen to avoid this sensitive and polarizing issue altogether. However, capitalizing on these linkages could represent significant opportunity to advance the reproductive rights and environmental movements, and increase the prominence, legitimacy, and funding of global family planning services, in particular. This thesis uses an action research approach to explore the current framing of the reproductive rights and environmental sustainability linkage, study the perceptions of stakeholders of both the reproductive health and rights and environmental sustainability movements on this issue, and elaborate a strategic communication roadmap to promote its operationalisation.

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Glossary of Abbreviations and Acronyms

FPESA	Family Planning and Environmental Sustainability Assessment
ICPD	International Conference on Population and Development
IDI	In-depth-interview
IPCC	Intergovernmental Panel on Climate Change
IPPF	International Planned Parenthood Federation
LDC	Least developed country
NAPAs	National Adaptation Programmes of Action
NGO	Non-governmental organization
PSN	Population and Sustainability Network
SDGs	Sustainable Development Goals
UN	United Nations
UNFPA	United Nations Population Fund
US	United States
WHO	World Health Organization

Chapter 1: General Introduction

General Introduction

Thesis Overview

I have employed a thesis by articles structure. Chapter 1 provides a literature review of the linkage between reproductive rights, population size, and environmental sustainability. This review provides a situated context for the research questions and objectives and the theoretical approach. Chapter 2 presents the methodological approach and ethical considerations. I then present three manuscripts prepared for publication in different peer-reviewed journals. Chapter 3 (Article 1, formatted for submission to *Environment, Development and Sustainability*), provides an overview of the evolving framing of population dynamics and environmental sustainability linkage from Thomas Malthus until 2017, explores gaps and opportunities for reproductive rights, and introduces a conceptual model to contextualize reproductive rights in a sustainable ideological frame. Chapter 4 (Article 2, formatted for submission to the *Journal of Population and Sustainability*), explores how stakeholders of the reproductive health and rights movement, and stakeholders of the environmental sustainability movement perceive the linkages between family planning, population growth, and environmental sustainability. Chapter 5 (Article 3, formatted for submission to *Social Change*) elaborates a strategic communications roadmap to promote the operationalisation of the family planning and environmental sustainability linkage. Chapter 6 presents outreach initiatives and the FP/Earth project, a collaboration and learning initiative that was born from the findings of the above-mentioned research. It concludes with a general discussion and ties the components of the dissertation together.

Introducing the Linkage

The two premises on which this thesis research is built are that reproductive rights must be advanced, and that a better balance between humans and their natural environment must be found. Well-established reproductive rights recognize that all individuals and couples must have the information and means to decide freely the number, spacing, and timing of their children (United Nations Population Fund (UNFPA), 1995, para. 7:3). Nonetheless, a glimpse at global statistics provides a gloomy outlook of how far these rights have in fact materialized:

- Nearly half of pregnancies around the world are unintended (Bearak et al., 2020).
- Over 225 million women have an unmet need for family planning (Guttmacher Institute, 2017). The World Health Organization describes unmet need in the following way:
“Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the next child. The concept of unmet need points to the gap between women's reproductive intentions and their contraceptive behaviour” (World Health Organization, n.d.).
- Approximately 25.1 million unsafe abortions occurred worldwide each year during 2010–2014, a large majority of them taking place in low-income countries (Ganatra et al., 2017).

Progress on reproductive rights is thus unacceptably slow, and numerous barriers to comprehensive family planning exist, particularly for vulnerable groups such as migrants, refugees, and adolescents (UNFPA, 2016b; United Nations Commission on the Status of Women, 2015; United Nations Population Fund, 2016). Global reproductive rights – and, as a result, global reproductive health – can still be characterized as precarious and unstable. They are regularly targeted and weakened by political changes and ideological opposition. For example,

the Trump administration's re-instatement and expansion of the Mexico City Policy in 2017 exemplifies such processes. The Mexico City Policy, also known as the Global Gag Rule, is a policy that prevents foreign non-governmental organizations (NGOs) receiving United States (US) global health assistance from advocating for or providing information, referrals, or services for legal abortion in their country — even with their own funds. The Trump administration applied the policy to all US global health assistance, and increased the amount of funds affected by the policy 20 times – from \$600 million to about \$12 billion (Ahmed, 2020). As such, this policy impacted reproductive health far beyond direct access to abortion, blocking access to health care and undermining reproductive rights for many around the world. The Guttmacher Institute reports that research has consistently demonstrated that the Global Gag Rule is harmful, lacks any public health value, and has devastating impacts (Ahmed, 2020). Sadly, restrictions in US funding for population assistance have significant impacts on a global scale, the US being by far the single largest donor country (Van der Meulen et al., 2019).

In parallel, climate change and continued environmental degradation threaten to undermine 50 years of progress in global health. Environmental destruction is widely recognized as a paramount health issue with negative outcomes on health equity (Costello et al., 2009; Whitmee et al., 2015a). Going beyond this, it is now well accepted and recognized – at least in the scientific community – that environmental degradation and climate change threaten the long term viability of the planet (Intergovernmental Panel on Climate Change, 2018). Climate change and the health of the planet's oceans, land fertility and land use, biodiversity, air quality, freshwater use, etc. all have significant implications for each other as well as for human health.

Population Dynamics and Reproductive Rights: A General Overview

Where do reproductive rights and environmental sustainability meet? They appear to have synergistic interests: access to family planning is a pathway to environmental sustainability, as one of its well-documented effects is the lowering of fertility rates (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016).

There were around one billion human beings at the beginning of the 18th century, two billion in 1927, six billion at the turn of the 21st century, and, as I write these words in July 2021, 7.8 billion. The population growth rate peaked with an increase of 2.1% per year between 1965 and 1970, is currently at 1.1% and is projected to continue to decrease. Despite this, the United Nations (UN) World Population Prospects estimate that the size of the global population will stand between 8.5 and 8.6 billion in 2030, between 9.4 and 10.1 billion in 2050, and between 9.4 and 12.7 billion in 2100 (United Nations, Department of Economic and Social Affairs, Population Division, 2019). The world's highest population growths are projected to disproportionately take place in low-income countries, countries that tend to have a high vulnerability and exposure to the negative impacts of environmental degradation.

As the 2019 UN Population Projections state, “continued rapid population growth presents challenges for sustainable development” (2019, p. 10) . The corollary is that lowering fertility rates carry multiple environmental sustainability benefits and minimize the impact of the negative consequences of climate change on health (Mohan & Shellard, 2014). Analyses of global emission scenarios demonstrate that slowing population growth could lead to substantial emissions reductions and play an important role to avoid dangerous climate change (O'Neill et

al., 2010a). For these reasons, the linkages between family planning, population growth, and environmental sustainability have generated renewed policy interest. Moreover, interrelated development challenges have gained in importance since the introduction of the Sustainable Development Goals (SDGs), which take a holistic, multisectoral approach to development. The SDGs constitute the core of the 2030 Agenda for Sustainable Development, a framework issued by the United Nations for the global development agenda until 2030 (UN General Assembly, 2015). As its title suggests, this agenda places sustainability as an overarching framework for global development. Reproductive rights have an important place in this Agenda, with sexual and reproductive health targets included in goals three, “Good Health and Well Being”, and five, “Achieve gender equality and empower all women and girls”. Target 3.7 states: “By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes” (p.16). Target 5.6 states: “Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences” (p.18).

Despite increasing scientific evidence indicating that the size of the global population matters for environmental sustainability, and by extension, that fulfilling reproductive rights may be beneficial for environmental sustainability, the linkages between reproductive rights and environmental sustainability have been largely ignored and left out of environmental policy and reproductive rights agendas (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016; Murtaugh & Schlax, 2009; The Lancet, 2009). Scholars in various academic fields have deplored this lack of attention (Bongaarts & O’Neill, 2018; Engelman, 2009; McFarlane, 2014;

Newman et al., 2014; Speidel et al., 2009). Moreover, most of the climate change science has until now either ignored population dynamics (including size, age structure, and urbanization) or treated these issues in a fragmentary or simplified manner (O'Neill et al., 2010a). The series of three articles presented as part of this thesis project analyse the historical and contemporary reasons for this status quo.

Research Goals, Questions, and Objectives

Broadly speaking, my research explores the linkages between family planning, population size and environmental sustainability. To ensure that a rights-based approach remains central to this effort, achieving the positive environmental impact of family planning is understood as enabling individuals to make their own fertility choices, and therefore targets the global unmet need for family planning. This approach provides a safeguard against a departure from a rights-based approach to family planning, as fulfilling and protecting human rights remains the core objective in the process of integrating environmental sustainability in the reproductive rights' ideological framework. Therefore, considering the prominence of environmental issues on policy agendas, my research explores the opportunity to use environmental sustainability as leverage to increase the prominence, legitimacy, and funding of global family planning services to reduce the unmet need for family planning, while maintaining a feminist vision of reproductive autonomy.

This project revolves around two central questions:

1. How do stakeholders of the sexual and reproductive rights movement and of the environmental sustainability movement perceive the relationship between family planning, population size, and environmental sustainability, and what opportunities and challenges do they perceive to their integration?

2. Which steps and/or instruments are required to reduce the unmet need for family planning and leverage its impact on environmental sustainability?

As such, the objectives of this research are twofold: 1) To contribute to the body of knowledge surrounding the population, health, and environment linkages; and 2) To contribute to mobilizing policy makers and activists around these issues.

Theoretical/Conceptual Framework

This research focuses on finding solutions to address the dual problems of the global unmet need for contraception and global environmental degradation, and capitalizing on their positive synergistic relationship. It adopts an action research approach and pragmatic worldview and envisages pluralistic methods to derive knowledge. It is situated within an interdisciplinary frame incorporating elements from the fields of population health, reproductive rights, environmental sustainability, and intergenerational and global health justice.

A Pragmatic Worldview

Pragmatism focuses on finding suitable solutions to a problem and is not committed to one system of philosophy and reality. The researcher adopts her methodology according to her objectives, as what will be researched and the choice of methodology will depend upon how to best achieve a practical objective (Creswell, 2013).

Framing Environmental Sustainability

I abide with John Morelli's definition of *environmental sustainability* as both "meeting the resource and services needs of current and future generations without compromising the

health of the ecosystems that provide them” and “a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity” (Morelli, 2011, p. 6).

Environmental sustainability is thus closely linked to the concept of sustainable development, defined in the Brundtland report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, p. 41). For the purpose of my thesis’s exploration of the relationship between the fulfillment of reproductive rights and environmental sustainability, climate change and environmental degradation are addressed interchangeably, or as intimately connected concepts. The interdisciplinary approach of this thesis, as well as the relationship between the physical and social processes associated with environmental degradation and climate change, call for an integrated approach to climate change and the broader processes of environmental degradation. If they need to be considered separately, I will treat climate change as one of the manifestations of environmental degradation. This contrasts with the fact that much of the research on which I have constructed the rationale and arguments of this dissertation address climate change or specific aspects of environmental degradation separately. For example, the landmark article by O’Neill and colleagues on global demographic trends and the future of carbon emissions focuses on climate change (O’Neill et al., 2010a), whilst Mathews’ article on bioproportionality is centered on nature conservation (Mathews, 2016).

Population Health

Population health is defined as the health outcomes of a group of individuals, including the distribution of such outcomes within the group (Kindig & Stoddart, 2003). A population health approach acknowledges that the pursuit of health must take into account complex and evolving social, cultural, and environmental interactions, and aims to design cross sectoral, upstream and horizontal interventions to improve health with an emphasis on equitable health outcomes. Population health is concerned with the existence of a social gradient in health, whereby health outcomes correlate with social stratifiers such as socioeconomic status, gender, ethno-race (Adler et al., 1994). The interdisciplinary nature of this research is premised upon the recognition that the causes and levers for health lie well beyond any one sector. Because it uses the linkages between reproductive health and environmental sustainability to optimize health gains and promote health equity, it pursues an important population health objective: improving coherence in intersectoral action to contribute to population health improvements (Canadian Institutes of Health Research, 2015).

Health as a Capability

This research embraces Sen's notion of health as a capability (1992), and adopts elements of the health capability model developed by Ruger (2010). Health capability is a conceptualization of health that rests upon three constructs: functionings, capabilities, and agency. Functionings consist of an individual's "beings and doings" (Sen, 1992). A person's state of health at a given time is, for example, a functioning. Capabilities not only encompass health functioning and health itself, but also take into account the *ability* to be healthy (Ruger,

2010). The freedom to choose between alternative health functionings plays a key role in determining the overall wellbeing of an individual, and is an element of the third construct: agency. Agency refers to a person's role within a society, and points to the importance of freedom and reason in enabling humans to make choices (Ruger, 2004). The health capability approach offers a well-suited conceptual framework to address the linkages between reproductive rights, population dynamics, and environmental sustainability, as it places the individual, freedom, and agency at its core. Ultimately, population dynamics can only be used to benefit reproductive rights if they reflect these fundamental values. Moreover, Ruger's health capability model allows for a flexible and nuanced understanding of health that recognizes the inter-connectedness and plurality of health determinants.

Reproductive Rights

The Programme of Action of the International Conference on Population and Development (ICPD) states that reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health (United Nations Population Fund, 1994). The ICPD definition also includes the right of all to make decisions concerning reproduction free of discrimination, coercion and violence as expressed in human rights documents. In the exercise of this right, individuals should take into account the needs of their living and future children and their responsibilities towards the community.

From the human and reproductive rights perspectives, my theoretical framework will integrate key constructs from the *Voluntary, human rights-based family planning framework*

developed by Hardee and colleagues (2014). They interpret the right to the highest attainable standard of health as being composed of four interrelated and essential elements: availability, accessibility, acceptability, and quality. The classification of reproductive rights as falling within the right to reproductive self-determination, the right to sexual and reproductive health services, information and education, and the right to equality and non-discrimination; and the assumption that all conditions that constrain a women's capacity to make a full, free, and informed choice violate rights. Therefore, inadequate supplies of safe and effective contraceptives, including the range of methods available, general barriers to contraception and poor-quality services all contribute to human-rights violations.

Family Planning

An important difference between this project's conceptual framework and that of Hardee and colleagues (2014) lies in the scope of sexual and reproductive rights. Hardee and colleagues focus on family planning but incorporate other related reproductive health issues such as sexually transmitted infections, HIV, and maternal health. However, abortion-related activities are excluded on the grounds that these should not be promoted as a method of family planning. I abide by Hodgson's stance that abortion is a legitimate method of family planning, as it constitutes an efficient means of preventing and controlling birth, a necessary option to consider in the wake of contraceptive failure, a biomedical option to improve the life of a woman, and an individual women's right (2009). For this reason, abortion will be included in the theoretical scope of this study. Thus my use of the term "family planning" includes both contraception and abortion but does not include other areas of sexual and reproductive health, such as the

prevention and treatment of HIV and sexually transmitted infections or maternal and child health more broadly.

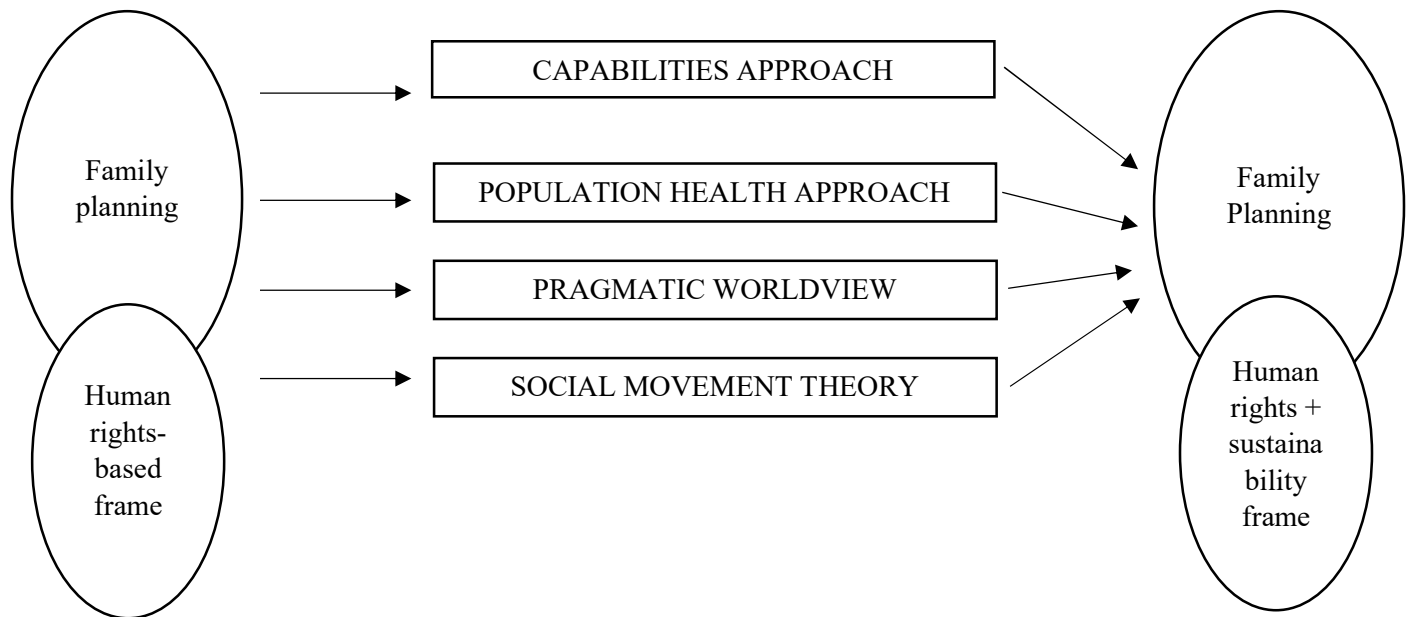
Social Movement

Finally, as one of my research objectives is to develop a strategic tool to strengthen the family planning movement by enlarging its ideological framework, I integrate elements of social movement theory into my conceptual framework. Amenta and colleagues (2010) have identified three key components influencing social movements: 1) The ability to mobilize resources; 2) The “framing ability”, that is the ability to convince those in power of its claim for social change, requiring consistency with the audiences’ personal experiences as well as cultural resonance; and 3) Action by decision-makers, enabled when stakeholders’ goals are facilitated by supporting the movement.

The family planning movement’s dominant collective action frame is rights-based. Kimport (2016) has suggested that the abortion movement may have immediate opportunities to diversify its organizational structure by investing in emergent, grass roots organizations appealing to new audiences, as well as strengthening its framing of its social change message. I will adopt a similar position in relation to the family planning movement, i.e., that it may have an opportunity in enlarging its frame by acknowledging the role that a claim to environmental sustainability may play in advancing family planning from a social movement perspective. The conceptual model, Figure 1.1, illustrates the progression between the different constructs and approaches detailed above.

Figure 1.1

Harnessing the Positive Impact of Family Planning on Environmental Sustainability: Conceptual Model.



Significance

This project improves broader understanding and theory regarding the association between family planning, population size, and environmental sustainability, thereby addressing a neglected issue and an understudied field of study. Documenting and analyzing the ways in which these multi-sectoral aspects are perceived and interact with each other can contribute to increasing the acceptability and legitimacy of initiatives in this field. In turn, acknowledging the positive impact of family planning on environmental sustainability could play a role in advancing reproductive rights by enlarging its ideological framework. This thesis also draws attention to a neglected aspect of climate change mitigation. Climate change mitigation refers to efforts to reduce or prevent emission of greenhouse gases, and includes the behavioral changes that can be undertaken at the individual level. Empowering individuals to choose the number,

spacing, and timing of their children can be considered as a climate change mitigation measure because it has the indirect effect of reducing overall fertility (Wynes & Nicholas, 2017a). This project thus contributes to reducing the underlying conditions of risk and promoting coherent inter-sectoral action for population health improvements.

Literature Review

From Population Control to Reproductive Rights

Aiming to influence the fertility levels of a group or a population to pursue demographic objectives has existed throughout history. For the purpose of this thesis, I will narrow my exploration of these pursuits to a relatively well defined time period ranging approximately from the 1960s until 1994, today largely known as the population control movement. The population control movement is an international effort to regulate levels of fertility, today largely condemned for its numerous human rights violations and hidden colonialist, racist, political, and security agendas. The population control movement emerged from a demographic imperative, as population levels grew exponentially in the middle of the 20th century and generated fears of what became known as overpopulation; this movement was also linked to decolonization processes, fear of the spread of communism, and racism (Donaldson, 1990; Grimes, 1998a; Richey, 2008). Eager has argued that population control was propagated as the main norm guiding global population policy from 1965 until the 1994 International Conference on Population and Development held in Cairo, Egypt (the Cairo conference) (2004). According to Eager, population control policies rested on three assumptions: 1) Rapid population growth is a primary cause of the developing world's development problems; 2) People must be persuaded, or

forced, if necessary, to have fewer children without fundamentally improving the conditions in which they lived; and 3) Contraception should be delivered on a massive scale.

Both the rationale for the population control movement and its funding stemmed from the United States (Bourbonnais, 2019). Population policies aiming to slow or reduce population growth mobilized enormous funds, and were generated under a global crisis model, where the risks associated by overpopulation, famine and environmental degradation became central development issues (Foley and Hendrixson, 2011).

The population control movement was far from homogenous, as its implementation, on the ground, took many forms. There is little doubt that the fast and far-reaching population policies that took place between the 60s and 1994 contributed to make family planning more accessible on a global scale, among other benefits (Bourbonnais, 2019). But the human rights violations that took place - sometimes at a massive scale - under the population control movement quickly overshadowed these benefits. During India's state of Emergency period, for example, millions were coerced to undergo sterilization or uptake long acting reversible contraception methods (Connelly, 2006). This dark history of population control has unsurprisingly left a strong mark on the family planning movement. As the population control movement disproportionately targeted poor people of color, it also created a backlash with these communities (Coole, 2021).

At the Cairo conference, the backlash to population control programmes combined with feminist and human rights advocacy contributed to a fundamental shift in the population policy discourse (Halfon, 2007). Population policy frameworks and discourses were reframed within a women's empowerment perspective, resting on a rights-based approach grounded in reproductive autonomy, and targeting women's familial and cultural contexts as determinants of

population behaviour (Blanc & Tsui, 2005; Halfon, 2007). Sinding explains that the Cairo conference replaced the family planning movement with the reproductive health and rights movement, a movement that over time came to include sexual and reproductive health rights (2008).

This shift in discourse had a number of policy-relevant consequences. Of importance for this thesis project, the relevance of population dynamics to development and sustainability was subsequently largely ignored by the sexual and reproductive rights community and, according to certain scholars, became considered as taboo (Connelly, 2009; Potts, 2014a). Another consequence of this ideological shift was that family planning budgets fell dramatically (Potts, 2014a). Foley and Hendrixson argue that the population control movement had mobilised a rapid and substantial response because it fitted within a “global crisis model”, dominating global policy attention; the reproductive health and rights framework did not create the same sense of urgency (Foley & Hendrixson, 2011).

Environmental Degradation, Climate Change, and the Respect and Fulfillment of Reproductive Rights are Major Population Health Issues

Human activities are the leading cause of environmental degradation and climate change (IPCC, 2014). A growing body of research is documenting the current and future health risks associated with these environmental outcomes. For example, Costello and colleagues (2009) argue that the combined effects of anthropogenic environmental degradation are threatening to undermine 50 years of progress in global health. Further, researchers have drawn attention to the inequitable distribution of the negative consequences of climate change, and to the fact that it will disproportionately affect countries with the least resources, as well as population groups

experiencing vulnerable living conditions, such as women, children, and refugees (Costello et al., 2009; Patz et al., 2005). While the state of the physical environment has for long been under-represented as a determinant of health (Canadian Public Health Association, 2015), it is now emerging as a “medical emergency” in public health discourse (Carrington & Boseley, 2015).

The disparities in global reproductive health constitute a blatant health inequity. The risk of dying in childbirth, for example, is 1 in 6 in some parts of sub-Saharan Africa, while in North America and Europe, this risk is of 1 in 8,700 (Barroso & Sinding, 2009). Wirth (2009) points to the existence of gender and economic inequities associated with rapid population growth and dependence upon access to reproductive health services as underlying causes.

Linking Population Growth and Environmental Sustainability

Population size is one of three factors traditionally recognized as determining human-made environmental impact, the other two being affluence and technology (Ehrlich & Holdren, 1971a). There has long been near consensus that the consumption/affluence and technology factors are the major determinants of anthropogenic environmental impact, and that population size is secondary (C. J. A. Bradshaw & Brook, 2014; Pearce, 2009). However, a growing body of research demonstrates that although slowing population growth may not be the most important factor in reducing greenhouse gas emissions, it can nevertheless make a significant contribution to their diminution (Engelman, 2009; O'Neill et al., 2010b, 2015; O'Sullivan, 2015). Numerous scholars draw attention to the need to consider population dynamics in addressing environmental degradation and climate change in the long term (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016; IPPF & PSN, 2016). John Cleland (2013) and other scholars draw attention to the need to address population dynamics because of their overarching implications

for food production and water consumption in the short term, key considerations in sustainability and sustainable development.

Linking Reproductive Rights and Population Growth: Toward an Overarching Sustainability Frame?

In *Family Planning and Environmental Sustainability: Assessing the Science*, a report produced by the Worldwatch Institute, 939 peer-reviewed papers were reviewed to assess whether the use of family planning (defined by the authors as contraception and other pregnancy prevention strategies) contributed to environmental sustainability (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016). The findings of this study indicate that this question has rarely been considered, as very few of the reviewed papers directly explored whether contraception was beneficial to the environment and that, therefore, no declared consensus exists on this question. Nevertheless, the report concludes that access to and use of contraception slows population growth, and that slowing population growth tends to lessen the risk of dangerous environmental changes and to enhance societal resilience. Further, it indicated that an overwhelming majority of researchers address, in one way or another, the interconnectedness of population growth and environmental degradation. The report highlights the need to overcome the continuing lack of awareness surrounding this interconnectedness and use the opportunity to benefit environmental sustainability while promoting reproductive rights.

One of the consequences of the growing recognition of the interconnectedness of these issues is that addressing population dynamics through the advancement of reproductive rights is increasingly perceived and recognized as a valid component of climate change adaptation and mitigation strategies. Mutunga and Hardee analysed 44 National Adaptation Programmes of

Action (NAPAs) to identify the range of interventions included in countries' priority adaptation actions and highlight how population issues and reproductive health/family planning are addressed as part of these agendas (2010). National Adaptation Programmes of Action provide a process for least developed countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage (United Nations Framework Convention on Climate Change, 2014). Their research found that a majority of the reviewed NAPAs identified rapid population growth as a key component of vulnerability to climate change impacts, but few countries chose to prioritise NAPA funds for family planning/reproductive health programmes. They emphasized the need to recognize the relevance of population dynamics in adaptation programmes and to translate that recognition into interventions that lead to lower fertility, such as women's empowerment and fulfillment of reproductive rights.

In their analysis of the adaptation to falling land-labour ratios in Africa, Headey and Jayne call for a multi-sectoral approach to sustainability that includes reducing the unmet need for contraception to reduce fertility rates (2014). They further draw attention to the fact that the importance of family planning (undefined by the authors) and women empowerment policies are under-emphasized in most policy discussions. In a joint report, the International Planned Parenthood Federation and the Population and Sustainability Network highlight that family planning is a critical, human rights-based, and cost-effective approach to climate change adaptation and resilience building (2016).

Social justice is also advanced by scholars as a core element of rights-based population and sustainability policies. In *World Population Policies: Their Origin, Evolution, and Impact*, May (2013) draws attention to the need to revisit population policies in the light of key issues

(climate change, inequality, and security) as well as key population groups (women, adolescents, older individuals, migrants). May also draws attention to the growing literature on how population growth can exacerbate poverty and inequality. The authors of the influential report *Safeguarding Human Health in the Anthropocene Epoch* by the Rockefeller Foundation–Lancet Commission use the concept of “planetary health” to refer to the interconnected nature of environmental sustainability, social justice, and health (Whitmee et al., 2015b). The report recognizes population dynamics as one of the driving forces of environmental change and recommends urgently embracing transdisciplinary research to advance planetary health.

Finally, Newman and colleagues (2014) have drawn attention to the relevance of sexual and reproductive health for sustainability issues, and argued that the reproductive rights movement ought to overcome its resistance to discussing “population”. They stressed that integrating population dynamics concerns in the sexual and reproductive rights and health agenda would play a role in securing that sexual and reproductive health and rights become perceived as core international development priorities, as well as lead to a true cross-sectoral effort for sustainable development. They expressed concern that if the reproductive rights movement did not embrace population dynamics, this interconnected field risked being appropriated by others who might place less emphasis on human rights issues and insisted that it was possible to care for population dynamics and for human rights at the same time.

Conclusion

Since the Cairo conference, reproductive rights, population dynamics and environmental sustainability have become increasingly treated as distinct and unrelated movements. Partly as a result, the way in which the fulfillment of reproductive rights, population dynamics and

environmental sustainability intersect has been overlooked and understudied. Numerous scholars draw attention to the need to consider population dynamics in addressing environmental degradation and climate change in the long term. Access to and use of contraception appears to slow population growth, which in turn tends to lessen the risk of dangerous environmental changes and to enhance societal resilience. Moreover, contextualizing reproductive rights in a sustainable frame may present opportunities to advance these rights.

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Chapter 2: Methodology

Methodology

A qualitative approach is the most appropriate methodology for this research project because it allows for exploring people's insights and perceptions of an experience or phenomenon, informing the development of interventions, and understanding better barriers and facilitators to their successful implementation (Denny & Weckesser, 2019). Qualitative research is an iterative process in which improved understanding to the scientific community is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied (Aspers & Corte, 2019). To understand better the phenomenon under study, I employed different methods to gain insights into participants' perspectives and the way in which the linkage between reproductive rights and environmental sustainability was framed and communicated. These methods consisted of an online survey, in-depth interviews, and document analysis. The survey contained a number of close-ended questions which I interpreted using descriptive statistics. All components of this project are situated within an interpretivist and pragmatic paradigm and thus this is a multi-methods qualitative study.

Data Collection Overview

For my dissertation., I used both secondary data (I screened newspaper articles, organizational reports and websites and peer reviewed articles for relevant material) as well as primary data, collected for the purpose of this research. I collected primary data between March and September 2019 and these data consisted of an online survey (N=153) followed by in-depth interviews (N=14) with key informants. I chose to perform an online survey to reach out to a large, global, and diverse audience in a fast and efficient manner and the in-depth-interviews

aimed to gather participants' perceptions and opinions in a more flexible and thorough manner. In both the survey and interviews, I focused on the perspectives and experiences of active stakeholders in the reproductive health and rights and environmental sustainability movements about the linkage and on how they dealt with its controversial nature. Eligibility was based on self-identification as being active in the reproductive health and rights and/or environmental sustainability movements. By "active" I meant to identify people with a marked interest or concern for one or both of these movements and/or for whom these issues influence their work, activism, and/or engagement.

Data Collection: Online Survey

I recruited participants by contacting researchers, organizations, and governmental bodies directly, as well as circulating invitations through listservs, personal and professional networks, and word-of-mouth. Conscious efforts were made in recruitment efforts to reach out to a wide variety of experts to reflect different viewpoints and reach out to participants in various parts of the world for global representation. In total, I sent over 900 invitations. I made the survey available via SurveyMonkey, an online survey software, for a period of 46 days. The online survey questionnaire contained 38 closed- and open-ended questions, focusing on participants' backgrounds, perceptions and framing of the linkage, including on its controversial nature, opinions on the potential scope of related interventions, and perspectives on social norms related to fertility.

Data Collection: In-Depth Interviews

I conducted 14 telephone/Skype in-depth, semi-structured interviews with participants who agreed to participate in a follow up interview after completing the online survey. After obtaining each participant's consent, I conducted, recorded, and transcribed all interviews in English. These lasted approximately 45 minutes. The in-depth interview guide consisted of 21 open-ended questions, broadly ordered by level of sensitivity. Each interview began with a review of the participant's background (age group, profession, country of origin/living) and engagement with the linkage. Questions followed on perception, framing, sensitivity, opportunities, and governance related to the linkage, as well as on the acceptability of global population policies. Questions also integrated some results of the online survey. The in-depth interviews provided opportunities for participants to steer the conversation towards their concerns and interests and allowed for a rich exchange experience. I provide more information on primary data collection and analysis in chapter 4.

Action Research

I designed this research based on action research methodology, centered on a cyclical process involving planning, action, and evaluation. "Action" consists of data gathering, data feedback, data analysis, action planning, and taking action (Coughlan & Coughlan, 2002). In action research, the development of each research instrument and data collection phase are interventions that constitute elements of action within these cycles (Coughlan & Coughlan, 2002). As the principal researcher, I have led and coordinated all steps of this process. Moreover, constant and iterative reflection characterized the largely emergent research process. I

anticipated the methods but also planned for flexibility in their implementation, given the emergent nature of this research.

Planning Phase

I undertook document analysis and drafted a preliminary report summarizing existing policies and programmes linking family planning and environmental sustainability. In this process, I paid special attention to documentation ascertaining ways in which the family planning movement can increase its prominence, funding, and legitimacy in the light of its impact on fertility levels and environmental sustainability. Concurrent with this process, I established a list of relevant stakeholders and potential participants and produced a draft interview guide for use during the in-depth-interviews (IDIs).

Quality and Credibility of the Research

A number of steps have been undertaken to safeguard the scientific quality of the research process. To ensure procedural rigor, I paid special attention throughout the project to the description of the way in which the research was conducted. I strived to express in an explicit manner every aspect of the research process: how I found and selected participants and how I collected, recorded, and analyzed the data (Kitto et al., 2008). To ensure interpretative rigor, I employed several techniques: triangulation, reflexivity, and bracketing. Moreover, I engaged in a personal experiential learning cycle, as the inquiry-reflection process is central to action research (Coughlan & Coughlan, 2002).

Triangulation

Triangulation is an analytic approach that rests on the combination of multiple methods, sources, and theories to contribute to enhance the validity of research results (Farmer et al., 2006). I used several methods of triangulation including multiple data sources and theory triangulation. The study design was based on three levels of data gathering, organized sequentially, as well as simultaneously. After a document analysis, I launched the online survey and then conducted in-depth-interviews. The document analysis section was ongoing throughout every step of the data-gathering process, serving to lay a foundation for the research process as well as to assist in the interpretation of the results. The online survey results informed the development of the in-depth-interviews guide and served to provide context for both the conversations with participants, and my interpretation of these interviews results. The quantitative results of the online survey were compared and contrasted to the emerging qualitative research data, offering an opportunity for comparative research (Fielding & Fielding, 1986). Altogether, I found that the insights generated by the qualitative and quantitative data did converge, and that the findings generated by each research method elucidated complementary aspects of the same phenomenon (Patton, 1999).

The other method of triangulation used, theory triangulation, refers to the use of different hypotheses or theoretical lenses to look at the same data. This turned out to be a complex and ongoing task throughout this research project. My research questions and objectives are deeply grounded in inter-disciplinarity, and the lenses through which I analyzed these data included population and public health, sexual and reproductive health, sexual and reproductive rights, demography, environmental and climate science, planetary health, climate change adaptation and mitigation, environmental ethics, environmental philosophy, social movement theory, and climate communication. Findings were not individually checked in relation to each of these

disciplinary frames, as this would have been an impossible task in terms of timing and complexity. However, these frames did inform the data-analysis process, as every other element of this thesis.

Testing Rival Explanations and Considering Outliers

During the data analysis process, I actively looked for data that supported alternative explanations to those initially emerging by looking for other ways of organizing the data that might lead to new interpretations and findings. I also treated cases that did not fit within the developed conceptual categories with special attention. Patton explains that our understanding of a data-set's emerging trends and patterns is increased by considering the instances that do not fit within the pattern (Patton, 1999).

Researcher Reflexivity Statement

I will now examine the research process by exploring my own position to the matter under study, a process involving self-scrutiny, known as reflexivity (Bourke, 2014). My interest in studying the linkage between reproductive rights and environmental sustainability developed from my academic studies and professional career. I started my undergraduate studies in law, with the hope that it would equip me with tools to help humans achieve a better balance with their living environment. During my law degree, I focused my interests on human rights and environmental policy. I then pursued an interdisciplinary Master's in Science in Environmental Management to grasp better the physical processes involved in these issues. I subsequently worked for various NGOs mostly focused on environmental protection, international development, and sexual and reproductive health.

In my work in the environmental protection sector, I was confronted with impossible policy dilemmas, where advocacy work was dominated by constant opposition to policies, and where few solutions were proposed. I felt the need to think outside the box to find structural interventions to improve the status quo and adopted a causes of the causes approach to environmental sustainability policy. This led me to what I perceived as the synergy of interests between the need to fulfill reproductive rights and the role of population dynamics for environmental sustainability. Conscious that this synergy was very much disputed across the environmental sustainability and reproductive health and rights movements, I decided to pursue a PhD to understand better how others perceived this linkage. In doing so, my training in law was instrumental to helping me design an ideological framework for the research that reflected a human rights approach.

As a white Canadian-Belgian, mother of two in my late 30s and early 40s, I was conscious that the subject matter I set off to study carried delicate cross-cultural implications resulting from the fact that the large majority of the countries where high fertility rates are found were located in the Global South. For this reason, I paid special attention to including participants of the Global South in my research process. I also strived to engage in **bracketing**, or suspending my own biases during the research process. Because the researcher in qualitative research is the instrument for analysis across all stages of the project, her/his/their assumptions, values, interests, emotions and theories inevitably impact how data is gathered, interpreted and presented (Tufford & Newman, 2012). I strived to acknowledge and take note of how these preconceptions evolved throughout the research process. This endeavour was done in order to treat data as impartially as possible, reach deeper levels of reflection, and deal with

emotionally challenging content. Last, as Patton explains, scientific inquiry using observational methods requires disciplined training and rigorous preparation (1999, p. 1200). To meet these objectives, I undertook a qualitative research class and participated in several workshops on conducting qualitative research.

Ethical Approval

I received approval to conduct an online survey and in-depth interviews with stakeholders in the Sexual and Reproductive Health and Rights and Environmental Sustainability movements from the Social Science and Humanities Research Ethics Board at the University of Ottawa (Appendix A, File #12-17-05). I conducted all of the research activities in accordance with the protocols outlined in the ethics application, including the use of the online survey recruitment letter (Appendix B), in-depth-interview recruitment letter (Appendix C), online survey questionnaire (Appendix D), in-depth interview guide (Appendix E), and consent form (Appendix F).

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Chapter 3: Contextualizing Reproductive Rights in a Sustainable Ideological Frame

I have formatted this article for submission to the peer-reviewed journal, *Environment, Development and Sustainability*. This manuscript adheres to all of the formatting and style requirements of the journal and, as of January 2022, is under review. The full citation of this manuscript is:

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Contextualizing Reproductive Rights in a Sustainable Ideological Frame

Abstract

This article draws attention to the renewed interest in the linkage between population dynamics and environmental sustainability. It reviews the evolving framing of this linkage since Thomas Malthus and addresses the absence of the population factor in international policy making as stemming from the backlash of the population control movement. Based on the premise that population growth increases environmental impact and that family planning triggers reduced fertility levels, I draw attention to the synergistic interests at play in these fields, their integration presenting significant opportunities for the reproductive rights and environmental movements. Using social movement theory, the discursive and normative processes of broadening and diversifying the ideological frame of reproductive rights to include sustainability concerns are analyzed and a conceptual model is put forward, providing a preliminary empirical assessment of contextualizing reproductive rights in a sustainable ideological frame.

Key words: Reproductive rights, population dynamics, environmental sustainability.

Background

Population dynamics is the study of why population numbers change in time and space and how these processes operate through biological, social, and environmental processes (Turchin, 2003). In this article, population dynamics will refer exclusively to the human population.

Although the growth rate of the global population is expected to continue to fall, global population numbers are on a path to continue to increase substantially in the coming decades. The 2017 United Nations Population Division's medium variant global population projections are estimated to reach 8.6 billion in 2030, 9.8 billion by 2050, and 11.2 billion in 2100 (United Nations, Department of Economic and Social Affairs, Population Division, 2017).

Population is one of three factors traditionally recognized to determine human-made environmental impact, the other two, consumption/affluence and technology, playing a more direct role (Chertow, 2000; Ehrlich & Holdren, 1971). It is well documented that consumption/affluence and technology are the "true" determinants of anthropogenic environmental impact, as the following examples illustrate: the environmental impact of the poorest 1 billion is about 3 per cent of the world's total footprint, and the carbon emissions attributed to one American amount to those of two hundred and fifty Ethiopians (Bradshaw & Brook, 2014; Costello et al., 2009; Pearce, 2009). Inequities are also rife within the rich world, where the super-rich in particular appear to have and to drive disproportionately high consumption patterns (Otto et al., 2019). Adding to this injustice, climate change will disproportionately affect countries with the least resources, as well as population groups experiencing vulnerable living conditions, such as women, children, and refugees (Costello et al.,

2009; Watts et al., 2018). As Patz and colleagues pointed out, “climate change...represents possibly the largest health inequity of our time” (Patz et al., 2007, p. 397).

While it is unavoidable that population size plays a role in environmental impact, the predominant opinion is that its role is secondary to the affluence/consumption and technology factors, which are widely considered as its “true” determinants (Bradshaw & Brook, 2014; Pearce, 2009; Pope Francis, 2015). Partly for this reason, the population factor is an understudied and under-recognized aspect of climate change (Murtaugh & Schlax, 2009; O’Neill et al., 2010; United Nations Population Fund, 2009). However, a growing body of research demonstrates that although slowing population growth may not be the most important factor in reducing greenhouse gas emissions, it can nevertheless make a significant contribution to their diminution (United Nations Population Fund, 2009). O’Neill and colleagues calculated that slowing population growth could provide 16%–29% of the emissions reductions suggested to be necessary by 2050 to avoid dangerous climate change (O’Neill et al., 2010, p. 17525). Scholars and international organizations are increasingly drawing attention to the need to consider population dynamics for environmental sustainability (Cleland, 2013; Engelman et al., 2016; United Nations Population Fund, 2009). More specifically, because access to family planning triggers reduced fertility levels, pursuing the improvement of reproductive rights can be perceived as a pathway to minimize environmental degradation and climate change (Engelman et al., 2016).

Integrating population dynamics in environmental sustainability policy is timely for several reasons. First, climate policy integration, described by Urwin and Jordan as “The perceived need to integrate a climate change dimension into all areas of policy making” is increasingly called for, while few studies examine its process and role (2008, p. 181).

Second, much progress must be done to advance reproductive rights and environmental sustainability. A growing body of evidence points to the imminent risks associated with climate change, environmental degradation, and climate change tipping points (IPCC, 2018). On the other hand, progress on reproductive rights is unacceptably slow, and numerous barriers to family planning continue to exist, particularly for vulnerable groups such as migrants, refugees, and adolescents (UNFPA, 2016a, 2016b; United Nations Meetings Coverage and Press Releases, 2015). New pathways to respect, protect and fulfill reproductive rights are required to address these inequities.

Third, we are striving to eradicate extreme poverty and to raise global standards of living, thereby diminishing the gap between the environmental impact of populations. Between 1990 and 2015, the number of people living in extreme poverty has declined by more than half, falling from 1.9 billion in 1990 to 836 million in 2015 (United Nations, 2015a). Improving living standards, even if grossly insufficiently, does increase the relevance of the population aggregate size. In other words, even if significant gaps remain between rich and poor, the population factor cannot continue to be ignored or minimized.

Nevertheless, the international development community, economists, demographers, environmentalists, feminists, and sexual and reproductive rights advocates are reluctant to address the linkage between population growth and environmental degradation (Newman et al., 2014; Speidel et al., 2009). This linkage is generally absent from the international development and environmental policy discourses, even more so in the reproductive rights field, where a resistance to discuss “population” is rife (Newman et al., 2014, p. 58). Stemming from the legacy of coercive “population control” programmes and the contemporary framing of reproductive

rights as individual rights that are private in nature, this absence creates a missed opportunity to advance both reproductive rights and environmental sustainability.

To address this missed opportunity, I adopt a pragmatic approach incorporating elements of social movement theory and document policy and programmatic trends indicating that a discursive and normative shift is taking place as the values, language, and assumptions of the reproductive rights and environmental movements evolve to integrate population dynamics. Taking these elements into consideration, I develop a conceptual model, providing a preliminary empirical assessment of the integration of environmental sustainability in the reproductive rights ideological framework.

The Evolving Framing of the Population Growth/Resource Linkage

In 1798, Thomas Malthus developed a theory on the population size-resource link, which contrasted the exponential growth of population to the arithmetic growth in the means of subsistence. His population theory constituted the starting point of a systematic analysis by demographers and economists of the relation between population and resources. In the years immediately following World War II, as global population size increased substantially, a pressing “overpopulation crisis” discourse emerged. The fear of the consequences of overpopulation, stemming from demographic analysis as well as political and ideological thinking, led to fears of a “population bomb” (Ehrlich, 1968).

As the fear of an overpopulation crisis grew, global agencies and funding streams were created to bring fertility levels down. These efforts became known as “the population control movement”, an international effort to regulate levels of fertility, today largely condemned for its

numerous human rights violations and hidden colonialist, racist, political, and security agendas (Grimes, 1998; Halfon, 2007).

In parallel, in the late 1970s, the population growth-resource linkage was rejected by the revisionist perspective, which considered population growth to be both necessary and beneficial for development (Halfon, 2007). Termed the demographic dividend, this view was advanced by free-market economists, and constituted a rhetorical shift from previous theories that saw high fertility levels as a barrier to development. With the advent of the environmental movement in the 1960s and 1970s, a neo-Malthusian environmentalism emerged, grounded in a crisis rhetoric and promoting strong population control measures (Taylor & Garcia-Barrios, 1999). The non-realization of the imminent catastrophic forecasts of the neo-Malthusian environmentalists and the diffusion of the revisionist perspective advanced by free market economists contributed to the rejection of the premise that population growth was incompatible with environmental development.

But it was feminist advocacy and ideology which marked the end of the population control movement. At the heart of the feminist and population control movements lay opposite ambitions, namely, to enable or limit reproductive autonomy. Despite their contrasting objectives and radically different ideologies, both movements contributed to the introduction of family planning programs and to making contraception more accessible. In his article on the origins of the US international population policy, Donaldson states that “In addition to the contribution that slower population growth was thought to make to economic development; the practice of family planning was seen as enabling women to avoid unwanted pregnancies” (Donaldson, 1990, p. 388). From a feminist perspective, population control left a legacy of human rights abuses,

contributing to explain the reluctance of reproductive rights stakeholders to address population dynamics.

At the 1994 International Conference on Population and Development in Cairo, Egypt the women's empowerment approach superseded the population control movement, shifting the focus from demographic targets towards health and gender equality as dominant concerns for reproductive issues. Reproductive rights are today recognized as fundamental elements of public health and as catalysts for issues related to gender equality, access to education, and poverty reduction. Family planning was recognised as a human right in 1968 at the International Conference on Human Rights in Tehran, Iran which affirmed the basic right of parents to determine freely and responsibly the number and the spacing of their children was recognized.

Reproductive Rights and Sustainability: A Synergy

The dismissal of the population growth and environmental resource link due to the persistence of a damaging population control movement is a lost opportunity for reproductive rights and environmental sustainability, which have synergistic interests. Access to family planning is a pathway to sustainability, as one of its well-documented effects is the lowering of fertility rates (Engelman et al., 2016). For this reason, the linkage between family planning and environmental sustainability have generated renewed policy interest. For example, the European Parliament Committee on Development recently issued an opinion linking family planning and climate change (2017). It identified rights-based family planning as a potential adaptation strategy and urged the identification and promotion of programmatic approaches that provide integrated solutions to health, gender and environmental challenges. This opinion was taken into account in a report of the Committee on Women's Rights and Gender Equality and subsequently

approved by the European Parliament (European Parliament, 2018). The Intergovernmental Panel on Climate Change (IPCC) fifth assessment report also identifies family planning as a climate change adaptation strategy (2014, p. 714). In the same vein, a recent Lancet editorial stated: “The availability of modern contraception to women and girls is important for the sustainability of our planet, the full economic potential of all countries, and the health of future generations” (The Lancet, 2017).

The population dynamics conversation is one that is closely related to reproductive rights. The availability of reproductive health services and the upholding of reproductive rights influences the size of a population (Potts, 2014). As Potts points out, “all societies with unconstrained access to fertility regulation experience a rapid decline to replacement levels of fertility, and often lower” (1997, p. 8). A useful indicator to evaluate the potential impact of integrating environmental sustainability in the reproductive rights ideological framework is the global unmet need for contraception, estimated at 214 million in developing countries alone (Darroch et al., 2017). Unmet need is established where women want to avoid childbearing for at least two years but are using no (or alternatively no ‘modern’) method of contraception (Cleland, 2019). This indicator, whilst problematic for many reasons, including that it doesn’t take abortion into account nor that it equates active demand for contraceptive services (Cleland, 2019), nevertheless provides a helpful order of magnitude of unmet family planning needs. Dasgupta and Dasgupta contend that the unmet need for contraception may be largely underestimated because it is measured by amalgamating the desire for family size with the need for family planning and does not take the social embeddedness of fertility preferences into account (2017). Fertility desires are socially embedded because of the influence of peers, which can be as strongly felt as in consumption practices. Further, Dasgupta stresses that expanding the sphere in

which reproductive rights are acknowledged, protected and promoted to acknowledge the environmental impact of population growth could generate collective benefits (2018). Integrating environmental sustainability and reproductive rights by acknowledging the impact of population dynamics on sustainability may or may not be limited to fulfilling the existing global unmet need for family planning. As Dasgupta suggests, it may require revisiting this indicator, and may encompass an appeal to social norms surrounding fertility behaviours (2018).

Recognizing that better environmental sustainability is a corollary from sexual and reproductive rights offers an opportunity to broaden and diversify the ideological frame of these rights. As Kimport explains in her article comparing the successes of marriage equality and abortion rights movements in the US, a social movement can become successful by being framed in a new light, thereby appealing to new audiences, widening the cultural resonance of its claims and diversifying its organizational structure (2016). In her example, the marriage equality social movement became successful when it emphasized the language of “love and commitment” and distanced itself from an exclusive focus on human rights. Similarly, sexual and reproductive rights, whose dominant collective action frame is also rights based, could benefit from a widened ideological framework encompassing its positive impact on environmental sustainability.

The Population Dynamics/Environmental Sustainability Linkage in the Sustainable Development Goals (SDGs)

The SDGs constitute the core of the 2030 Agenda for Sustainable Development, the overarching framework issued by the UN for global development until 2030 (United Nations, 2015b). Setting aside their multiple and intertwining goals and targets, the core of the SDGs relates to two broadly defined global phenomena: the persistence of poverty and inequalities

unlikely to be resolved through conventional political and economic means; and the global crisis of climate change and overshoots in many of our essential environmental goods. The SDGs call for the elimination of extreme poverty by 2030, an indicator critiqued for its inadequacy as poverty levels associated with life expectancies of over 70 years would require between three- and five-times higher incomes than those associated with the extreme poverty level of 1.90 PPP (purchasing power parity) a day (Labonté, 2016). Many scholars have drawn attention to the contradiction at the heart of the SDGs, that with our current level of technological advancement and economic context of increasing income and wealth inequalities within most countries, the climate targets could not be achieved, as the gradual eradication of poverty is likely to yield negative environmental consequences (Zhang et al., 2015). Others have found that achieving the eradication of extreme poverty (at its current 1.90 PPP a day) did not jeopardize climate targets, but that reaching 2.97 PPP would significantly do so (Hubacek et al., 2017). Wackernagel, Hanscom and Lin have demonstrated that performing well on the SDGs triggered negative impacts on sustainability, because of its strong correlation with high per person demand on nature (2017). Fewer, however, have addressed how population growth, in poverty alleviated contexts, would impact sustainability objectives. Several SDGs, such as those aiming to end extreme poverty, hunger, and inequality, achieve gender equality, health and well-being, and ensure inclusive and equitable education will influence population dynamics in little understood and inter-related ways. It is likely that their achievement will have strong direct and indirect effects on population dynamics: the transposition of the goals in population scenarios indicate a correlation with reduced fertility levels and lower population growth (Abel et al., 2016). Nonetheless, population growth and population dynamics are altogether absent from the language of the SDGs. Although the SDGs constitute a framework to achieve a better operational

balance between humans and their environment, they do not acknowledge that continued population growth is unsustainable and beyond the ecological limits of our planet.

The overarching sustainability objective of the SDGs appears compromised without the inclusion of the population factor. This omission could be interpreted in different ways: it could be understood that the United Nations held an opinion similar to the one expressed in the Catholic Church's first encyclical on ecology, that whilst acknowledging climate change, demographic growth was compatible with an integral and shared development (Pope Francis, 2015). Other possible explanations for this omission are that population dynamics was considered as a neutral factor for sustainability, or that addressing the population growth/environmental degradation linkage was too estranged from the values of the international development community, in part resulting from the backlash of the population control movement, to be considered a valid factor.

I posit that the latter explanation is the most plausible. It is unlikely that the United Nations International Development Community considered that continued population growth was not negatively impacting or neutral for environmental sustainability. The United Nations Population Fund (UNFPA) and the IPCC, both UN affiliated organizations, have declared that population growth and environmental sustainability were linked: in its 2009 State of the World Population, the UNFPA clearly acknowledged the linkages between population growth, family planning and environmental sustainability (United Nations Population Fund, 2009); in the IPCC fifth assessment report, family planning was suggested as a climate change adaptation strategy (Intergovernmental Panel on Climate Change, 2014).

Despite their omission of population dynamics, the SDGs are an exceptional window of opportunity for the advancement of a renewed policy discourse on the family

planning/environmental sustainability linkage. First, their increased emphasis on sexual and reproductive rights in Goals 3 and 5 indicates a shift from previous normative contexts, where family planning was regarded as too controversial to be included (Potts, 2014). Second, the 2030 Agenda adopts a universal and rights-based approach, taking a broad view of human development, with human rights at its centre. A widened reproductive rights discourse integrating population dynamics and sustainability must be construed within such a framework. Third, the focus of the 2030 Agenda on sustainable development, including its economic, social, and environmental aspects, paves the way for a renewed emphasis on population dynamics, grounded in a rights-based approach, and universal in scope. Fourth, the introduction of the SDGs signalled a shift from a poverty reduction angle to a larger social sustainability one (Hill et al., 2014). Finally, the preamble to the 2030 Agenda reminds us that its goals and targets ‘are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental’ (United Nations, 2015b, p. 1). A global development discourse integrating population dynamics will ensure better policy coherence and facilitate the fulfillment of the SDGs.

The absence, despite the resulting lack of policy coherence, of population dynamics in the SDGs, the increasing recognition that population growth plays a role in the sustainability of our planet, and the adoption of sustainability as an overarching framework for global development signal the existence of an ongoing discursive and normative shift which will impact the language, assumptions and values of the reproductive rights field in complex ways. At the heart of this process lies the recognition of the interrelation between family planning, population dynamics and environmental sustainability. The planetary health movement, for example, aims to contextualize health within an overarching sustainability frame. Essentially, planetary health is

based on the idea that human health and the health of the planet are related: “sustainability” is the ability of a society to make choices that are beneficial to its long-term survival (The Lancet Planetary Health, 2019). It views population numbers as one of the key factors triggering human induced environmental change and identifies the reduction of population growth as a solution to environmental problems (Whitmee et al., 2015).

Trends

Other examples signal the presence of an ongoing discursive and normative shift in the reproductive rights and environmental movements. Two of them are provided here: National Adaptation Programmes of Action (NAPAs), and the development of the “Population, Health, and Environment approach” in environmental conservation efforts. NAPAs are submitted to the United Nations Framework Convention on Climate Change secretariat and “provide a process for Least Developed Countries to identify priority activities that respond to their urgent and immediate needs with regard to climate change – those needs for which further delay would increase vulnerability or lead to increased costs at a later stage” (UNDP Climate Change Adaptation, n.d.). In its fifth assessment report, the IPCC drew attention to the relevance of family planning for climate change vulnerability and as an adaptation strategy (2014). Ninety-three percent of the first forty submitted NAPAs identified that demographic trends interacted with the effects of climate change (Bryant et al., 2009).

The analysis of these NAPAs suggests that reproductive health and family planning are increasingly perceived as valid tools for climate change adaptation and mitigation strategies. However, as Mutunga and Hardee point out, despite the explicit identification of population growth as a compounding factor for climate change and environmental degradation by some of

the countries most at risk of suffering from climate change, NAPAs funds did not prioritize this issue, resulting in a missed opportunity to advance reproductive health and family planning (2010).

The interdisciplinary Population, Health and Environment programmatic approach, which emerged from environmental conservation organizations, illustrates the effectiveness of integrating reproductive rights and environmental objectives to achieve long term sustainability benefits. Aiming to improve environmental and social outcomes to achieve long-term and wide-ranging development and conservation results and adopting an integrated, community based, and multi-sectoral approach, it simultaneously prioritizes family planning and reproductive health services with environmental objectives (Yavinsky et al., 2015). In 2017, the European Parliament Committee on Development urged the adoption of this approach to provide integrated solutions to health, gender and environmental challenges.

A Preliminary Conceptual Model for Contextualizing Reproductive Rights in a Sustainable Ideological Frame

Figure 3.1

Contextualizing Reproductive Rights in a Sustainable Ideological Frame

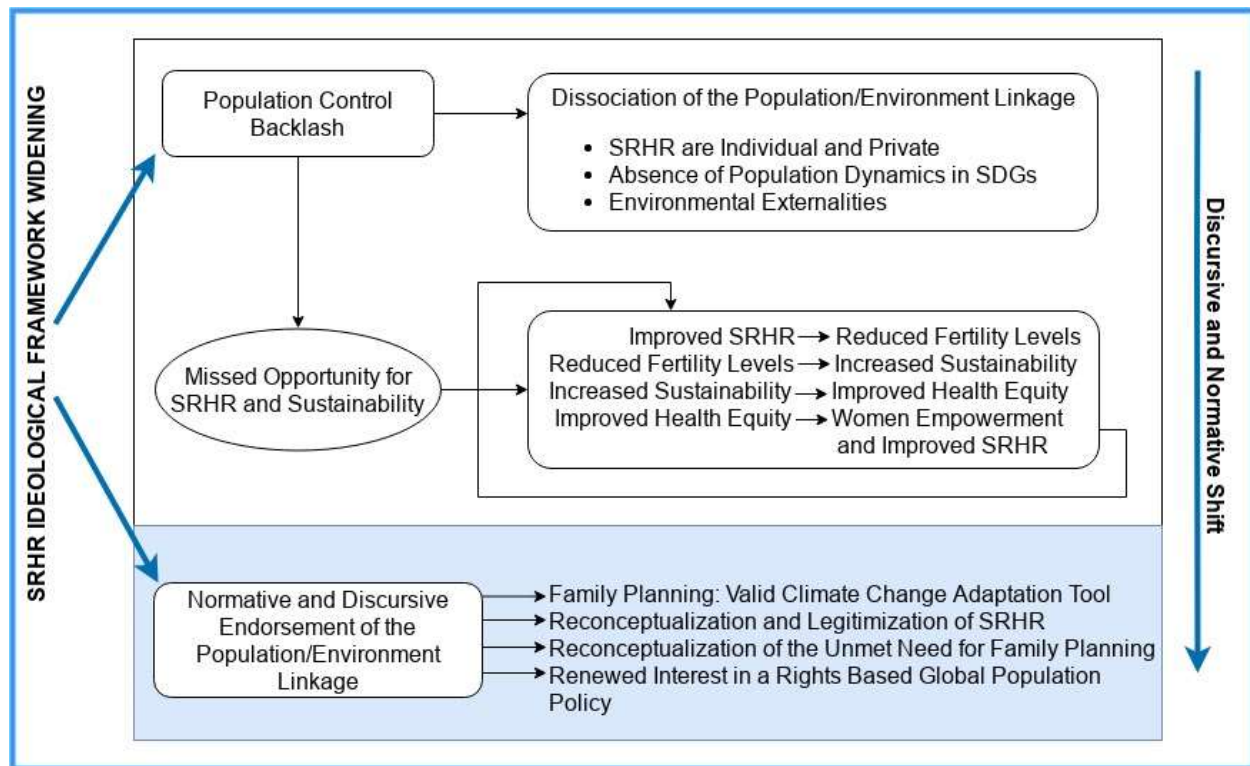


Figure 3.1 presents a conceptual model situating the population dynamics/environmental sustainability linkage in its present context. Based on a pragmatic worldview, it incorporates multi-disciplinary elements to develop a preliminary road map to re-engage the population dynamics, reproductive rights, and environmental sustainability fields. This model, whilst presenting an abstract representation of this problematic, encompasses real-world notions, selected for their tangible impacts on norm emergence at the international policy-making level. In its lower section, the model analyses the implications of the discursive and normative

integration of the population dynamics/environmental sustainability linkage in the norms and discourse of global policy making, from a reproductive rights perspective. Concurrent with this shift is the widening of the ideological frame of the reproductive rights movement in an overarching environmental sustainability frame. Central elements associated with the re-conceptualization of reproductive rights are the following: they become recognized as a valid climate change adaptation tool; the significance of and methods used to measure the unmet need for family planning are re-visited; the gradual emergence of the notion of a rights-based global population policy, to be reconciled with the current framing of rights as individual and private in nature, takes place.

Conclusion

The combination of the backlash against the population control movement, a focus on the economy to measure human development and the rapid technological advancements since the industrial revolution has created a situation such that the population dynamics and environmental sustainability linkage became considered as redundant, or taboo. As a result, until recently, the predominant opinion was that reproductive rights, population dynamics, and environmental sustainability were unrelated fields. In this article, I draw attention to the resulting missed opportunity for the advancement of reproductive rights and environmental sustainability, preventing much needed improvements in both fields. Reproductive rights and environmental sustainability may not only be reconciled but may play an important role in achieving each other's pursuits. Research suggests that widening the ideological frame of a social movement can substantially increase its support base, a much-needed outcome for the targeted and fragile reproductive rights field, and for the urgency to address environmental problems. Moreover, a

substantial global unmet need for family planning exists, and policies affecting fertility trends may already be desirable in their own right. I have documented the growing trend in global policy to address and capitalize on the synergistic linkage between family planning and environmental sustainability. Policy incoherence and contradictions in the language, values and assumptions of the international development community signal a discursive and normative shift effectively widening the ideological framework of the reproductive rights movement to reflect an overarching sustainability frame. The proposed conceptual model aimed to provide an empirical preliminary assessment to contextualize reproductive rights in a sustainable ideological frame. Going forward, the discursive and normative changes on the family planning/environmental sustainability linkage warrant more theoretical and empirical research.

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Chapter 4: Stakeholders' Perceptions of the Linkage between Reproductive Rights and Environmental Sustainability

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Stakeholders' Perceptions of the Linkage Between Reproductive Rights and Environmental Sustainability

Abstract

The fulfilment of reproductive health and rights may have a synergistic relationship to environmental sustainability because it leads to lower fertility levels. With this in mind, and with the objective of increasing the legitimacy, funding and acceptance of reproductive health and rights, I conducted a mixed-methods qualitative study consisting of an online survey followed by in-depth interviews. I reached out to two groups of participants: stakeholders of the reproductive health and rights movement, and stakeholders of the environmental sustainability movement. I explored how stakeholders perceived the linkages between family planning, population growth and environmental sustainability. Results indicate that these stakeholders overwhelmingly support the integration of the reproductive health and rights ideological framework in a wider sustainability frame reflecting environmental considerations. I identified three barriers to both addressing and implementing the linkage: responsibility allocation injustice, colonialism and discrimination, and marginalisation. Environmental sustainability and reproductive health and rights stakeholders appear in favour of applying what could be considered 'environmental mainstreaming' to the reproductive health and rights field. Environmental sustainability stakeholders were more likely than reproductive health and rights stakeholders, who were more divided on this issue, to endorse the linkage and related concepts.

Keywords: Family planning; reproductive rights; environmental sustainability; population ethics; population growth.

Scholars are increasingly drawing attention to the linkage between global population size, environmental degradation and climate change (Coole, 2016; Newman et al., 2014; The Lancet Planetary Health, 2019). My goal in this article is to analyse whether this linkage should be harnessed to increase the legitimacy, funding and acceptance of reproductive health and rights.

Access to reproductive health care and other programmes that facilitate the exercising of reproductive health and rights are underfunded (Girard, 2017; Pathak and Tariq, 2018) and politically vulnerable (Gilby and Koivusalo, 2020; Kaufman, 2020). Progress is unacceptably slow for reproductive rights, as numerous barriers to family planning continue to exist, particularly for vulnerable groups such as migrants, refugees and adolescents (UNFPA, 2016a, 2016b; United Nations Meetings Coverage and Press Releases, 2015). For these reasons, new pathways to respect, protect and fulfil reproductive rights need to be pursued.

Reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health (United Nations Population Fund, 1994). As such, inadequate supplies of safe and effective contraceptives, including the range of methods available, general barriers to contraception and poor-quality services all contribute to reproductive rights violations (Hardee et al., 2014).

Studies of global emission scenarios demonstrate that slowing population growth could lead to substantial emissions reductions and play an important role in avoiding dangerous climate change (Bongaarts and O'Neill, 2018; O'Neill, et al., 2010). Population dynamics can therefore

be perceived as a variable in climate change adaptation and mitigation. While much research still needs to be done to better understand the drivers of human fertility (Sear et al., 2016), we know that access to family planning lowers fertility levels (Engelman, 2009; Engelman et al., 2016; Intergovernmental Panel on Climate Change, 2014). In turn, because the fulfilment of reproductive health and rights lowers fertility levels, these rights can be considered as positively related to environmental sustainability. Fulfilling reproductive health and rights may benefit environmental sustainability in multiple ways, going beyond its impact on fertility. For example, it might facilitate greater women's agency and, through that, improved stewardship of the environment (Bell and Braun, 2010; Lv and Deng, 2019; Morgan and Winkler, 2020).

Conversely, reproductive health and rights may benefit from environmental sustainability. Research demonstrates that climate change and environmental degradation are a direct threat for global health, and an important driver of health inequities (Costello et al., 2009; Patz et al., 2007; Sellers and Ebi, 2018; Watts et al., 2018). Moreover, linking the fulfilment of reproductive health and rights with improved environmental sustainability may change how reproductive health and rights are perceived, as they give rise to a different type of social appeal. Kimport (2016) documented how framing a sensitive issue in a new light (in that case, marriage equality) enabled it to appeal to new audiences, widen the cultural resonance of its claims and diversify its organisational structure. Reframing reproductive health and rights to include beneficial outcomes on environmental sustainability has the potential to strengthen these rights, and could generate new or broader programmatic and funding opportunities (Newman et al., 2014; The Lancet, 2009). It is with this in mind that I asked participants if the reproductive health and rights ideological framework should be integrated in a wider sustainability frame reflecting environmental considerations.

Yet the reproductive health and rights and environmental sustainability linkage (hereafter referred to as ‘the linkage’), despite the opportunities that it might represent for both fields, remains largely understudied (Engelman, 2009; Murtaugh and Schlax, 2009; The Lancet, 2009). Scholars have documented many reasons for this status quo, at the heart of which are ethical dilemmas, the spectre of coercive population control programmes and misconceptions associated with population policy (Bongaarts and O’Neill, 2018; Kopnina and Washington, 2016; Newman et al., 2014). The need for a sustained critical analysis of the questions surrounding the linkage, and for finding ways to frame them in a politically and ethically acceptable manner is well established (Coole, 2016; Newman et al., 2014). I address this understudied facet of the linkage by exploring how stakeholders of the reproductive rights and environmental sustainability movements perceive these issues.

Methods

A qualitative approach was chosen as the most appropriate methodology for this research project because it allows for exploring people’s insights and perceptions of an experience or phenomenon, informing the development of interventions and understanding better barriers and facilitators to their successful implementation (Denny and Weckesser, 2019). I conducted a multi-methods qualitative research with data collection between March and September 2019. The study consisted of an online survey (N=153) followed by in-depth interviews (N=14) with key informants. I chose to perform an online survey to reach out to a large and global audience in a fast and efficient manner (Evans and Mathur, 2005). The in-depth interviews provided an opportunity to gather participants’ perceptions and opinions in a more

flexible and thorough manner. In both the survey and interviews, I focused on the perspectives and experiences of active stakeholders in the reproductive health and rights and environmental sustainability movements about the linkage and on how they dealt with its controversial nature. Eligibility was based on self-identification as being active in the reproductive health and rights and/or environmental sustainability movements. By 'active' I meant to identify people with a marked interest or concern for one or both of these movements and/or for whom these issues influence their work, activism, and/or engagement.

Data Collection: Online Survey

I recruited participants by contacting researchers, organisations and governmental bodies active in the reproductive health and rights and/or environmental sustainability fields as well as by circulating invitations through listservs, personal and professional networks and word-of-mouth. Conscious efforts were made in recruitment efforts to reach out to a wide variety of experts to reflect different viewpoints and to reach out to participants in various parts of the world for global representation. In total, we sent over 900 invitations. I made the survey available via SurveyMonkey, an online survey software, for a period of 46 days. The survey contained eight introductory background questions followed by sixteen multiple choice (close-ended) questions and thirteen open-ended questions, broadly ordered by level of sensitivity. I used survey design guidelines to generate rich and clear content. For example, I ended the survey with an invitation to share any additional information that the participant felt was relevant (Braun et al., 2020).

Broadly, the survey consisted of questions on participants' backgrounds, perceptions and framing of the linkage, including on its controversial nature, opinions on the potential scope of related interventions, and perspectives on social norms related to fertility.

I obtained 153 complete responses, a number that is lower than but comparable to another expert survey on population and climate change (van Dalen and Henkens, 2021). I adopted a flexible approach to choose the sample size, one that recognises that an adequate number is relative, and must balance the richness of data with the depth of analysis (Sandelowski, 1995). Determining sample size was thus an iterative process guided by the adaptive approach of thematic saturation (Sim et al., 2018). Broadly speaking, thematic saturation is reached when no new ideas that critically change the overall findings emerge in new data (Mason, 2010).

Data Collection: In-depth Interviews

After completing the survey, participants were directed to a separate webpage and asked whether they wished to participate in a telephone/Skype interview. All participants who expressed an interest in the follow-up interview were contacted, and fourteen telephone/Skype in-depth, semi-structured interviews were conducted with those that responded to the invitation. The number of in-depth interviews conducted depended primarily on the number of online survey participants who agreed to participate in follow-up interview, but after completing the fourteen interviews, thematic saturation was achieved. After obtaining each participant's consent, I conducted, recorded and transcribed all interviews in English. These lasted approximately 45 minutes. The interview guide consisted of 21 open-ended questions, broadly ordered by level of sensitivity. Each interview began with a review of the participant's

background (age group, profession, country of origin/living) and engagement with the linkage. Questions followed on perception, framing, sensitivity, opportunities and governance related to the linkage, as well as on the acceptability of global population policies. These questions were drafted with the preliminary results of the online survey in mind. The in-depth interviews provided opportunities for participants to steer the conversation towards their concerns and interests and allowed for a rich exchange experience.

Data Analysis

Across all the steps of this project, I engaged in researcher reflexivity by acknowledging and describing my position on this issue, and by bracketing my own biases during the research process (Tufford and Newman, 2012). I situated this project in a framework resting on the following axioms: anthropogenic impact creates environmental degradation and climate change (Whitmee et al., 2015); population size is a variable in anthropogenic impact (Ehrlich and Holdren, 1971); widening the ideological framework of reproductive rights to include environmental sustainability may present opportunities to advance the reproductive rights and health field (Newman et al., 2014). In order to avoid restricting the inquiry of participants' lived experience of the linkage, I refrained from adopting a pre-defined theoretical framework, a method known as 'theoretical agnosticism' (Pidgeon and Henwood, 2004).

Throughout the data collection process, I used memos to capture important themes and reflect on the meaning and significance of individual responses as well as on the data collection process and positionality. Each component of the study was analysed separately and sequentially,

starting with the online survey. Excel and Survey Monkey were used to obtain descriptive statistics.

Online survey results were analysed by reviewing each participant response individually and sequentially. I strived to identify underlying themes presented through the data. To do so, I organised responses in a combination of pre-determined and emergent codes and categories (Elo and Kyngäs, 2008). In parallel, I paid special attention to outliers, or responses that did not fit in conceptual categories, and treated them as relevant findings manifestations of important human diversity (Mcpherson and Thorne, 2008). The NVivo software was used to help organise and manage individual responses data.

I developed the in-depth interview questionnaire while analysing the online survey results, and integrated some of the survey findings into the in-depth interview questionnaire. For example, I asked, 'In the survey results, numerous participants indicated that the population factor should be omitted because its relation to environmental impact isn't direct ... How would you react to this?'

I studied in-depth interviews in the light of the preliminary online survey themes. I also produced memos after each interview to reflect on the content and process of the interview (DeJonckheere and Vaughn, 2019). Memos were organised as a running list of thoughts and comments.

In the last phase of the analytic plan, I finalised a list of themes and key points emerging from both the online survey and in-depth interviews to discuss and went back to the raw data for further data investigation and quote extraction. Table 4.1 presents this list. All the emergent

themes were included in the analysis of this paper, with the exception of education and fertility desire, which will be addressed in a separate paper.

Table 4.1 Emergent themes

Abortion
Capitalism
Climate skepticism
Colonialism
Cultural norms
Discrimination
Earth carrying capacity
Education
Environmental degradation and climate change
Fertility desire
Food security
Gender equality
Ignoring the linkage
Individual v collective rights
Interdisciplinary nature of the linkage
Marginalization
Population control and coercion
Population growth, size and reduction
Population size as a taboo
Poverty
Racism
Religion
Responsibility allocation injustice

Sexuality education

Strong emotional reactions

The themes arising from the in-depth interviews were broadly aligned with those of the online survey. While I start by presenting the results of the close-ended survey questions exclusively below, the rest of the paper presents the survey and in-depth interviews conjointly. Two investigative approaches were thus used: an online survey and in-depth interviews. Using different research methods contributes to enhancing the confidence in the ensuing findings. This process is called methodological triangulation (Mayer, 2015).

Ethics

I received approval to conduct this study from the Social Science and Humanities Research Ethics Board at the University of Ottawa (File #12-17-05). To protect the identity of the participants, all personally identifying data was masked or redacted.

Results

Participants' Characteristics: Online Survey

Table 4.2 provides an overview of online survey participants' characteristics.

Table 4.2 Online survey participant characteristics (N=151)

Characteristics		%	Number of participants
Regional group	Africa	21	32
	Asia	5	7
	Europe	25	37
	North America	43	65
	South America	3	4
	Global/International	3	5
	No response	0.7	1
Age group	Under 35	28	43
	Between 35-50	38	57
	Over 50	33	50
	No response	0.7	1
Identified as	Environmental sustainability policy maker, academic or advocate	51	77
	Reproductive health and rights policy maker, academic or advocate	31	47
	Identified as both of the above	14	21
	Other	3	5
	No response	0.6	1
Participant titles	Director/CEO/President/Manager	17	25
	Officer/Advisor/Consultant/Specialist	38	57
	Engineer/Scientist	5	8

PhD/Master Student	22	33
Teacher/Professor	9	14
Other	5	8
No response	4	6

Participants' Characteristics: In-depth Interviews

Of the fourteen in-depth interviews participants, ten came from the United States or Canada, and the four others came from Egypt, Holland, Nigeria and South Africa. I asked participants about their age: eleven were between the ages of 25 and 45 and three were over fifty. Their professions focused on reproductive health and/or rights (#6), the natural sciences (#4), law (#1) or both reproductive health and/or rights and environmental sustainability (#3).

Survey Results: Framing Reproductive Health and Rights in a Climate Emergency

In the online survey, I asked a series of close-ended questions to evaluate how participants felt that reproductive health and rights could or should be framed in the context of heightened environmental degradation and climate change. When participants were asked whether they were in favour of widening the ideological framework of the reproductive health and rights movement to reflect environmental sustainability considerations, a large majority from both movements agreed: 93 participants (62 per cent) accepted the proposition that the impact of environmental degradation on global health increased the relevance of population dynamics for reproductive health and rights policy (37 were unsure (24 per cent), and eighteen disagreed

(eleven per cent)). Participants who identified as stakeholders of the reproductive health and rights field were more likely to disagree with this proposition.

Of all the participants, 92 (61 per cent) found that family planning could be considered as a pathway to resilience because of its impact on fertility levels (28 were unsure (eighteen per cent), and 28 disagreed (eighteen per cent)); 84 participants (56 per cent) found that the fact that slowing population growth could play an important role to avoid dangerous climate change should influence our understanding of reproductive health and rights (26 were unsure (seventeen per cent), forty disagreed (26 per cent)). Again, participants identifying as stakeholders of the reproductive health and rights movement were more likely to disagree with this proposition.

A large majority of participants (101, or 67 per cent) felt that we needed to strive to reconcile and integrate the linkage's fields to advance them both (21, or fourteen per cent, disagreed and eleven, or seven per cent, were unsure). Participants identifying as stakeholders of the reproductive health and rights movement were twice as likely to reject this premise and were less likely to approve it as well.

I asked whether population size related to environmental sustainability, and 127 participants (86 per cent) agreed with this proposition, indicating overwhelming agreement. Some pointed to the arithmetical role of population size to generate impact, 'YES – size is related to the magnitude of environmental impact', while others indicated that population size influenced land, water, and natural resource use as a whole. Survey participant 24, from the United Kingdom, wrote: 'Bangladesh has now over 160 million population and 85% of all cultivatable lands are already used. If population doubles what will happen?' Table 4.3 summarises online survey

participants' reactions to statements about the connections between family planning, population growth and environmental sustainability.

Table 4.3 Participants' reactions to statements on the relationship between environmental degradation, family planning, and population growth

Statement/question	Answers	Number of participants	%	Notes
The impact of environmental degradation on global health increases the relevance of population dynamics for reproductive health and rights policy.	Agree	93	62	
	Unsure	37	24	
	Disagree	18	12	
	No response	3	2	
Family planning could be considered as a pathway to resilience because of its impact on fertility levels.	Agree	92	61	
	Unsure	28	19	
	Disagree	28	19	Reproductive health and rights field more likely to reject this proposition
	No response	3	2	
Slowing population growth could play an important role to avoid dangerous climate change and should influence our understanding of reproductive health and rights.	Agree	84	56	
	Unsure	26	17	
	Disagree	40	26	Reproductive health and rights field more likely to reject this proposition
	No response	1	1	
We need to strive to reconcile and integrate the linkage's fields to advance them both.	Agree	101	67	
	Unsure	11	7	
	Disagree	21	14	
	No response	18	12	

Does population size relate to environmental sustainability?	Agree	104	69	
	Unsure	21	14	
	Disagree	24	16	
	No response	2	1	

Whilst a large majority of participants endorsed the linkage, a minority disagreed with the idea that reproductive health and rights and environmental sustainability should be linked. Many others were supportive of the idea of integrating reproductive health and rights and environmental sustainability but expressed concerns as to how to achieve this both at the conceptual and practical levels.

Survey Results: Outliers

A small number of participants' answers stood out from the majority of the data obtained, and these were considered as outliers. Two groups of outliers were identified: those who were sceptical of climate change and/or the depletion and degradation of natural resources, and those who considered that addressing the family planning and environmental sustainability linkage was a disguised way to promote abortion and coercive reproductive health methods. Both groups consisted of a small number of participants, with nine for the first, and four for the latter. I hereafter present the three emerging themes that summarise the barriers that participants identified to address or implement the linkage: responsibility allocation injustice, colonialism and discrimination, and marginalisation.

Barriers to Addressing the Linkage: Responsibility Allocation Injustice

Many participants felt that there was a fundamental injustice inherent in the linkage, stemming from the contrast between the high consumption patterns/ low fertility levels of the Global North, and the low fossil-fuel consumption/high fertility of the Global South. Survey participant 140, from Nigeria, wrote: ‘While population size does have a role to play on environmental sustainability, the main culprits of climate change are countries whose populations are either stable or in decline.’ Addressing the linkage was therefore contradictory or difficult for some as it was perceived as an unjust displacement of responsibility, targeting the wrong group (the Global South) with the wrong intervention (population size). Many participants stressed that consumption patterns, and a reliance on fossil fuel-based energy, constituted the primary driver of environmental impact. Whilst a large majority of participants agreed that population size was related to environmental sustainability, several were reluctant to address the role of population size because they perceived other factors to be more important in determining environmental impact.

One follow-up interview participant from the United States explained that she had developed a strategy to address the linkage without being perceived to unjustly allocate responsibility to groups with higher fertility levels. She stressed the importance of acknowledging this problematic:

When I started out ... I would make presentations in Sub-Saharan Africa, and the first thing I would get up and say is ‘OK, let’s just get this out: Climate change is my fault. It is my consumption and my country.’ That sort of cleared the air. It wasn’t me standing up and saying, ‘Oh, you know, you people need to look at how many kids you have.’

A few participants feared that the linkage might exacerbate global injustices by spreading the idea that countries with higher levels of fertility were responsible for environmental degradation and climate change, thereby freeing the Global North from part of its historical and ongoing responsibility in this matter. Survey participant 49, from the United States, wrote:

In many ways, this focus on family planning and population size as a mitigating factor for climate change gives oil companies, western governments and others a pass when it comes to their culpability for the climate.

While many participants indicated that it tended to be the highest fertility groups that had the lowest environmental footprints, few addressed how changing standards of living might impact this status quo, despite global efforts to eradicate extreme poverty. Survey participant, 153, from the United States, wrote:

You can have a relatively small population and with high living standards and a large environmental impact. Vice versa, you can have a relatively large population with many people living in poverty and a relatively small environmental impact. ‘The rubber hits the road’ where you want to raise living standards for a large and growing world population.

The relation between poverty, environmental degradation and climate change is a complex one, and participants identified poverty as being both a driver of environmental degradation and a barrier to addressing the linkage. Survey participant 77, from Canada, wrote:

I worked in protected area conservation. Population pressures were often an issue. Some protected areas are the only remaining sources of cheap fuel (wood), food (bushmeat) or wildlife (for the wildlife trade). Poverty, more than population pressure, was the biggest risk factor.

Many participants stressed that achieving environmental sustainability was intimately associated to social justice goals. Survey participant 93, from Canada, wrote:

The world has a carrying capacity for humans and economic activity that has to be determined and respected, otherwise humans and the environment will both suffer. Living within the [earth's] means is possible but the distribution of wealth needs to be considered so that there is enough for everyone instead of too much for a minority. Here is a new economic growth paradigm to consider pursuing, 'enough is best'.

Barriers to Addressing the Linkage: Colonialism and Discrimination

The next barrier to the linkage expressed by participants is closely related to the first one in that it is also rooted in the injustice stemming from systemic power imbalances between the Global North and Global South, and/or between discriminating and discriminated groups more broadly. The history of population control programmes and proponents' discrimination and human rights abuses contributed to the reluctance of several participants to perceive the linkage as away to advance reproductive health and rights.

To a large extent, the above-described responsibility allocation injustice was associated to the systemic power imbalances illustrative of colonialism and discrimination towards women and marginalised populations, including indigenous people, racial/ethnic/religious/socio-cultural minority communities and people with disabilities, thereby creating a double injustice. Survey participant 109, from the United States, wrote:

This feels like a tool to instrumentalize already vulnerable populations into serving a priority need identified by the Global North ... It feels like another misguided attack on populations that are already subjected to the throes of Western powers.

Addressing the linkage involves delving deep into sensitive ethical questions related to reproductive health and rights, at the centre of which are access to family planning and fertility preferences. A few participants raised concerns of cultural imperialism. Survey participant 37, from Canada, wrote:

I've heard women such as Nigerian scientist Obianuju Ekeocha argue that Western advocacy for contraception in Africa amounts to a kind of neocolonialism, an imposition of Western views that is contrary to some African views on fertility.

A few participants stressed that indigenous people's voices on the linkage needed to be heard because of their related history of abuse by colonialist powers and because of the wealth of their traditional wisdom on this subject.

Participants referred to the tangible and concrete negative environmental consequences of an increasing population size. While participants from all geographical locations expressed concern for the impact of population growth on land use, deforestation and water pressure, those from the Global South were more likely than those from the Global North to express this view. Survey participant 57, from Nigeria, wrote:

Population size relates very much to environmental sustainability. In the days of our grandparents, farmers were able to practice shifting cultivation and that allows the soil to regenerate naturally. At the present, the population increase has reduced the size of cultivable lands available to individuals, and these lands are put into production yearly which leads to

decrease in yield. Unless a conscious effort is put in place to replenish the soil, famine will be the end result in the future.

Participants from Africa referred to ongoing programmes aiming to stabilise or reduce fertility levels in their own countries (Democratic Republic of Congo and Nigeria), or to broader governmental interest on this issue. These participants did not express concern for the compatibility of these programmes with human rights, but pointed to the fact that they contributed to removing barriers to family planning. Survey participant 73, from the Democratic Republic of Congo, wrote:

In my country, we have the department of Sexual and Reproductive Health. More activities are being implemented in this area: we have programs based on family planning, the use of condoms and contraception methods aimed at reducing the numbers of births and increasing births that are desired and birth spacing.

One participant from Sub-Saharan Africa explained that she avoided documenting the benefits of the linkage out of fear of displeasing external, Global North funders. Survey participant 140, from Nigeria, wrote:

In my own context when implementing family planning programs, we tend to avoid references to the demographic and economic benefits of family planning and focus almost entirely on health benefits. This is largely because family planning is funded by external donors and as such viewed as being a means of population control by foreign governments.

Global North participants thus expressed fears of engaging in forms of neo-colonialism and Western imperialism by promoting or acknowledging the linkage. While such fears were

echoed by some Global South participants, this group was also more likely to refer to the tangible and concrete negative environmental consequences of an increasing population size.

Barriers to Addressing the Linkage: Marginalisation

Marginalisation processes took place at multiple levels surrounding the linkage. First, because addressing the linkage is sensitive, it is easily and often avoided, ignored or minimised. Survey participant 8, from the United States, wrote:

The environmental movement doesn't want to touch reproductive health and rights because they have become so sensitive. The reproductive rights movement is suspicious of efforts to link population dynamics with climate change – we need each community to be better educated on the topics – but minds are hard things to change.

At least thirteen participants also referred to religion as a related matter, constituting a barrier to recognising and acting upon the linkage. They pointed to the difficulty of addressing this issue with others from a different religion or culture, to the rejection of family planning by some religious traditions/interpretations and to the likely disapproval by some religious leaders and religious traditions of messaging encouraging smaller families.

Secondly, the linkage is marginalised because it is of an interdisciplinary nature, being situated at the crossroads of the fields of reproductive health and rights and environmental sustainability. Participants referred to the interdisciplinary nature of the linkage in several ways. Several pointed to opportunities that might arise for the environmental and reproductive health and rights movements respectively, should they engage in a more inter- or trans-disciplinary approach. Survey participant 84, from Indonesia, wrote: 'Now more than ever there's a need to

break down barriers and work for common, interlinked global goals.’ However, many also identified interdisciplinarity as a barrier to addressing the linkage. Participants pointed to segregated funding streams, lack of multidisciplinary skills and training, and different language and interaction spaces as barriers created by the interdisciplinary nature of the linkage.

Compounding this problem were the general marginalisation of reproductive health and rights and environmental sustainability issues and how conceptually unrelated to each other these disciplines stood from each other. Survey participant 142, from the United States, reflected on the barriers to the integration of the reproductive health and rights and environmental sustainability movements:

Perhaps the greatest barrier is that both the reproductive rights and environmental sustainability movements feel that they already have their backs to the wall on their siloed issue, a situation that can only worsen if they take on the other controversial issue.

Finally, at least one participant pointed to the fact that the environmental movement and discourse were more associated with a natural science approach. Survey participant 28, from the United States, wrote:

As climate change has grown more salient within the environmental movement, the actors working within it have become more strongly integrated with the energy field, which is composed of more cautious, STEM-oriented professions than the more activist, liberal arts-oriented population that advocates most strongly for reproductive rights.

In the online survey, I also asked participants about topic sensitivity – that is, ‘the level of uneasiness with which they would talk about an issue to others’. I asked participants to rate the linkage’s topic sensitivity both in their professional and every-day lives. A large majority identified

the linkage as highly or moderately sensitive, as opposed to somewhat or not at all sensitive. Table 4.4 presents these results.

Table 4.4 Topic Sensitivity

Setting category	Answers	Number of participants	%
Professional life	Highly sensitive	48	32
	Moderately sensitive	50	33
	Somewhat sensitive	29	19
	Not at all sensitive	20	13
	No response	4	3
Every-day life	Highly sensitive	39	26
	Moderately sensitive	60	40
	Somewhat sensitive	28	19
	Not at all sensitive	22	15
	No response	2	1

Several participants talked about the need to integrate the linkage into policy agendas and found that reducing sensitivity constituted one step towards this. Survey participant 8, from the United States, wrote: ‘Thanks for doing this survey – we need to keep talking about this topic – and hopefully desensitize it’. I also asked whether participants felt reluctant to express their opinions in their professional fields on the linkage because of its associated stigma. A majority of those that responded indicated that the linkage was so important that it shouldn’t be ignored. Survey participant 80, from Zimbabwe, wrote: ‘No (I am not reluctant). Despite the stigma, this concern is to be addressed at all cost. I always find ways to engage the participants’. Those who felt reluctant to address the linkage feared being perceived as promoting a message that was at

odds with reproductive autonomy or societal norms; evocative of past population control measures; or sexist or racist. Survey participant 13, from Kyrgyzstan, explained being reluctant to address the linkage because of the existence of strong patriarchal norms and practices. Participants pointed to the need to adopt a careful language when raising the linkage to avoid being perceived negatively. Many also expressed that their reluctance was situation-dependent, where those who were in government or had to communicate to the public, media or policymakers found it more difficult than those who were in employment at research-based or academic workplaces. When asked about reluctance to address the linkage, survey participant 29, from Germany, wrote: ‘Among colleagues, no. But when speaking to the public or policymakers or media, yes’. Participants who were reluctant to express their opinions explained that this was due to their professional environment’s limited awareness on this issue, or to the fact that they expected their opinions to be dismissed if they expressed them.

Two categories of factors contributing to the marginalisation of the linkage as a subject matter can be identified. First, results indicate that conceptualising the fulfilment of reproductive health and rights as a tool or opportunity to further goals that reach beyond private and individual rights is a proposition that is highly contentious for some. A few participants perceived that the linkage epitomised the tension between individual and collective rights, and/or was evocative of the coercive practices that took place under population control policies.

The second factor contributing to the marginalisation of the of the linkage was uncertainty. Some participants had never encountered or reflected upon this issue prior to taking the survey, whilst others reflected on how little they knew of it. Many pointed to the lack of knowledge and unavailability of data surrounding this issue. Survey participant 137, from the

United Republic of Tanzania, wrote: 'There is limited data and information on these linkages.' There was also widespread confusion about the positions of the reproductive health and rights and environmental sustainability movements towards the linkage. While a majority perceived it as being ignored or rejected by those working in their fields, a few viewed it as an accepted premise. Survey participant 129, from Canada, wrote: 'There is a common understanding that reproductive rights will result in population reduction which will reduce pressure on limited natural resources and the environment.'

Environmental sustainability stakeholders were much more likely than reproductive health and rights stakeholders to state that those working in their field recognised, or acknowledged, the linkage. Survey participant 147, from Canada, wrote: 'Realistically, few people in reproductive health probably consider links with environmental sustainability.' Participants from both fields noted that younger persons working in their fields were more likely to endorse the linkage.

Marginalisation processes also took place at the individual level, as the linkage gave rise to strong emotional responses. Participants' responses indicated that they experienced a (sometimes very strong) emotional response when reflecting on the linkage. On one hand, the linkage's absence in the policy sphere caused a sense of disempowerment and anguish for many participants. They felt an urgent and strong need to include the role of population as a variable in generating environmental impact. Others expressed relief and gratitude for being given the opportunity to reflect, and/or for disciplinary inquiry into this field through this research. Survey participant 139, from India, wrote: 'I'm so glad you have created space to discuss this ... And when you have high income country governments encouraging higher fertility it really makes me

angry.’ On the other hand, some participants expressed anger and frustration at the survey questions, which some felt were leading or offensive. Survey participant 108, from the United States, wrote:

This survey made me really upset. It seems to be geared to finding ways to make neo-Malthusian arguments more palatable and politically correct. However, blaming climate change on Global South women’s childbearing habits is insidious and fundamentally misguided.

Discussion

Results indicate that stakeholders of the reproductive health and rights, and environmental, movements find that population size and family planning influence environmental sustainability, and overwhelmingly find that the reproductive health and rights ideological framework should be integrated in a wider sustainability frame reflecting environmental considerations. A majority of participants agreed with a number of propositions related to that central idea, such as: the impact of environmental degradation on global health increases the relevance of population dynamics for reproductive health and rights policy; family planning could be considered as a pathway to resilience because it lowers fertility levels; our understanding of reproductive health and rights should consider the fact that slowing population growth could play an important role to avoid dangerous climate change; the fields of reproductive health and rights and environmental sustainability ought to be further integrated. Participants also overwhelmingly considered the concept of planetary health as being relevant to the reproductive rights field, with 104 participants (seventy per cent) in favour, 24 (sixteen per cent) in disagreement, and 21 (fourteen per cent) unsure. Based on the idea that human health

and the health of the planet are related, planetary health adopts a multidisciplinary, cross- sector and transborder approach. It views population numbers as one of the factors triggering human-induced environmental change and identifies the reduction of population growth as an essential step to move humanity towards a more sustainable trajectory of development (Whitmee et al., 2015).

I deduce from these results that environmental sustainability and reproductive health and rights stakeholders are in favour of applying a planetary health approach, or what could be considered as ‘environmental mainstreaming’ to the reproductive health and rights field. Environmental mainstreaming is defined as ‘the informed inclusion of relevant environmental concerns into the decisions of institutions that drive national, local and sectoral development policy, rules, plans, investment and action’ (Dalal-Clayton and Bass, 2009, p.19, as cited in Bizikova et al., 2018) social and environmental dimensions of sustainable development. Existing multilateral environmental agreements (MEAs). Scholars have suggested two mutually supportive approaches for environmental sustainability: mainstreaming, or integration of related objectives, and the dedicated approach, which is developing stand-alone policies and programmes (Runhaar et al., 2018). A majority of participants were in favour of applying environmental mainstreaming to the reproductive health and rights field, an approach already called for by reproductive health and rights researchers (Newman et al., 2014).

A minority of participants favoured a dedicated approach for reproductive health and rights concerns, one that would exclude environmental considerations from its theoretical framework. Dedicated approach supporters perceived a fundamental incompatibility between human rights, perceived as individual, and environmental objectives, perceived as collective.

Recent reproductive health and rights research calling for ‘a radical reconceptualisation of family planning goals and measurements to focus exclusively on reproductive health, rights and justice’ illustrates this position (Senderowicz, 2019, p.1).

We have seen that environmental sustainability stakeholders were more likely than reproductive health and rights stakeholders to endorse the linkage and related concepts. The conceptual divide between proponents of a more integrated as opposed to a more dedicated approach to the linkage has the potential to create a schism both within the reproductive health and rights movement and with other disciplines, as reproductive health and rights are re-conceptualised in the context of a climate emergency and as sustainability is mainstreamed across sectors (Chakrabarty, 2009; The Lancet Planetary Health, 2019; Urwin and Jordan, 2008). Such a schism risks isolating the reproductive health and rights movement from other disciplines, and might also weaken the base of the reproductive health and rights movement as conflicting discourses emerge. Moreover, endorsing the linkage means that the reproductive health and rights movement could diversify and broaden the moral appeal of its rights, and access a range of new programmatic and funding opportunities associated with environmental sustainability. Rejecting the linkage would thus constitute, at the very least, a missed opportunity for the reproductive health and rights movement. As Newman, Fisher, Mayhew and Stephenson already concluded in 2014, ‘if sexual and reproductive health and rights advocates do not participate in the population dynamics discourse, the field will be left free for those for whom respecting and protecting rights may be less of a priority’ (2014, p. 53).

The survey and in-depth interview findings highlight that the linkage is shrouded in uncertainty, with many participants indicating that they had no or very little knowledge on this

issue. The findings show that the positions of the reproductive health and rights and environmental sustainability movements on the linkage were unclear, with stakeholders expressing contradictory views on what those positions were. Many deplored the lack of discussion and research on this. These findings corroborate the fact that the linkage is generally absent from environmental policy and research, even more so from the reproductive rights field, where a resistance to discussing population is rife (Bongaarts and O'Neill, 2018; Engelman, 2009; McFarlane, 2014; Newman et al., 2014; Speidel et al., 2009). There were inconsistencies in the way in which Global North and Global South participants perceived each other's positions. Several Global North participants felt that, on the grounds that they had shrinking fertility levels, endorsing the linkage risked amounting or amounted to a form of neo-colonialism targeting the Global South, and should therefore not be raised by them. On the other hand, a few Global South participants stressed that they wished to acknowledge the linkage in their work but were limited from doing so because their Global North funders were reluctant to engage with the population size question.

The interdisciplinary essence of the family planning and environmental sustainability linkage brings both opportunities and challenges. Focusing on the linkage and adopting interdisciplinarity is needed to tackle complex problems such as global environmental degradation and climate change (Orr et al., 2020). It allows a movement out of restricted disciplinary boundaries and provides unique opportunities to advance such questions (Bammer, 2013; Orr, et al., 2020). Yet interdisciplinarity also brings limitations, both procedural and conceptual, many of which were identified by participants. In this case, barriers associated with interdisciplinarity are compounded in several ways. Firstly, the lack of funding and volatility of political commitments to address both reproductive health and rights and environmental

sustainability exacerbates the sensitive nature of the linkage (Howes et al., 2017; Starrs et al., 2018). Secondly, the disciplines at play in the linkage are so fundamentally different that knowledge exchange and communication are problematic between their actors. Moreover, not only are the disciplines separate, but they are also unequal. Climate change and environmental degradation have been primarily studied and represented from a natural sciences perspective, one where social sciences (including interdisciplinary perspectives that focus on human rights) are largely under-represented, and often relegated to a secondary position (Corbera et al., 2016; Hulme, 2011; Mason and Rigg, 2019, p.6; Paterson, 2019).

Limitations

The goal to reach stakeholders from all United Nations regional groups to have a global representation wasn't met. Not only did the survey lack representation from the Eastern European Group, but participation disproportionally came from Western Europe and North America, which skewed the results. Language was also a limitation in this study, with the survey offered only in English, thereby creating a significant bias for global representation. Last, the sample size of the in-depth interviews was limited to those that responded to the invitation after the online survey. While the determination of sample size depends on the scope and nature of the study in qualitative research, general guidelines for this method of inquiry tend to be over twenty, which is above our number of fourteen (Marshall et al., 2013). I countered some of the limitations associated with surveys by undertaking in-depth interviews with a sub-section of participants, and by identifying myself in the same way as the study participants, as a stakeholder in the environmental and reproductive health and rights movements (Pfadenhauer, 2009).

Conclusion

We conclude that a large majority of stakeholders of both the reproductive health and rights and environmental sustainability fields wished to reflect and act upon the linkage between reproductive rights, population size and environmental sustainability in a more systematic manner.

We identified that stakeholders of the reproductive health and rights and environmental sustainability fields overwhelmingly supported the idea of integrating reproductive rights in a sustainability frame, thereby opening significant programmatic and conceptual opportunities for both movements. More specifically, these findings corroborate that the linkage can play a role to increase the legitimacy, funding and acceptance of reproductive health and rights. Acknowledging the linkage may mean that reproductive health and rights become eligible for climate funds, for example (Davies, 2021).

We found that stakeholders of the reproductive health and rights movements were more likely to be divided on the re-framing of reproductive rights in an over-arching sustainability context than their environmental peers. The latter overwhelmingly supported the integration option, which we equated to a process of environmental mainstreaming. Proponents of integrating environmental sustainability considerations into the ideological framework of the reproductive health and rights ideological framework are at the crossroads with those who adopt a more dedicated approach, one where reproductive rights are perceived as incompatible with larger environmental goals (Newman et al., 2014; Senderowicz, 2019). More research will be required to identify ways to bridge the divide and promote environmental mainstreaming in ways

that are responsive to the concerns that were associated with the linkage (the responsibility allocation injustice, colonialism and discrimination, and marginalisation). Additionally, further research is warranted to better understand how Global South stakeholders perceive the linkage.

The findings also highlight that uncertainty surrounding the linkage is pervasive, and suggest that policy makers and organisations active in the fields of reproductive health and rights and environmental sustainability should make their position on this issue more explicit.

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**Chapter 5: Empowered, Smaller Families are Better for the Planet: How to Talk about
Family Planning and Environmental Sustainability**

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Empowered, Smaller Families are Better for the Planet: How to Talk about Family Planning and Environmental Sustainability

Abstract

Despite their complex and nonlinear relationship, reproductive rights and environmental sustainability likely have a synergistic relationship. Social movement theory suggests that re-framing reproductive rights in this light can strengthen and benefit them by diversifying their moral appeal and support base. Yet, despite increasing scientific evidence demonstrating the role that population size plays for sustainability and increasing public awareness and concern for environmental degradation, linking these issues remains a contested and polarized enterprise. In this article, we explore the marginalisation processes at play surrounding this linkage and introduce the concept of population reductionism. We review advice and normative trends on communicating messages linking the fulfillment of reproductive rights with improved environmental sustainability. We elaborate a strategic communication roadmap to promote the operationalisation of the family planning and environmental sustainability linkage, centered on individual empowerment, and propose a global rallying cry: ‘empowered, smaller families are better for the planet’.

Key Words: family planning, reproductive rights, environmental sustainability, climate communication, population growth

Empowered, Smaller Families are Better for the Planet: How to Talk about Family Planning and Environmental Sustainability

Introduction

Recent studies highlight the that falling fertility rates may have multiple sustainability benefits (Mohan & Shellard, 2014; O'Neill et al., 2010a; Wynes & Nicholas, 2017a, 2017a). While the relationship between family planning and fertility is complex, it is highly probable that the availability of family planning triggers lowered fertility levels (Potts, 1997, 2014b; Yavinsky et al., 2015). The fulfilment of reproductive rights, of which family planning is an integral part, would thus become positively related, through lowered fertility, to improved environmental sustainability. Aside from the intrinsic interest of advancing reproductive health and rights and environmental sustainability, capitalising on the linkage between the fulfilment of reproductive rights and environmental sustainability (hereafter referred to as “the linkage”) would bring other advantages. For example, a large body of research demonstrates that investing in reproductive rights is cost effective and yields benefits across other sectors (Bixby Center for Global Reproductive Health, 2015; O'Neill et al., 2010a). The Guttmacher Institute has estimated that every dollar spent in the US family planning program yields a return on investment of over seven dollars (Frost et al., 2014). Adding to this, family planning would also play a role in stabilizing human population, which, in turn, would make each of the SDGs easier to attain (Hardee et al., 2018). These conclusions suggest that efforts to operationalise the linkage to promote reproductive rights are justified.

Yet the linkage remains largely understudied (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016; Mendel & Corbis, n.d.; Murtaugh & Schlax, 2009). Many

reasons explain this knowledge gap, starting with the nonlinear relationship between population and environmental degradation. Affluence, consumption and technology have a more direct and easier to measure role in generating environmental impact, and are widely perceived as its ‘true’ determinants (Bradshaw & Brook, 2014b; Pearce, 2009b). But other reasons also explain the reluctance to address the linkage. Exploring the relation between population size, human reproduction size, and environmental sustainability raises difficult ethical dilemmas and the specter of coercive population control programs. The dominant contemporary framing of reproductive rights also considers them as purely individual and as incompatible with larger environmental goals (Hamity et al., 2019; Hendrixson et al., 2019; Newman et al., 2014). Overall, addressing this issue remains difficult because it is delicate and polarizing (van Dalen & Henkens, 2021; Wackernagel, 2020). But research indicates that a majority of stakeholders of both the reproductive health and rights and the environmental sustainability movements perceive that population size relates to environmental sustainability and overwhelmingly support the integration of the reproductive health and rights ideological framework in a wider rights-based sustainability frame reflecting environmental considerations (Delacroix, 2022). The general public is also concerned and impacted by environmental degradation, and may pursue individual as well as collective behavioural change to improve the status quo. The need for a sustained critical analysis of the questions surrounding the linkage, and for finding ways to frame them in a politically and ethically acceptable manner, is well established (Coole, 2016; Newman et al., 2014). In this article, we reflect on the marginalisation processes at play surrounding the linkage and present a roadmap for communicating on and framing this issue to increase its acceptability.

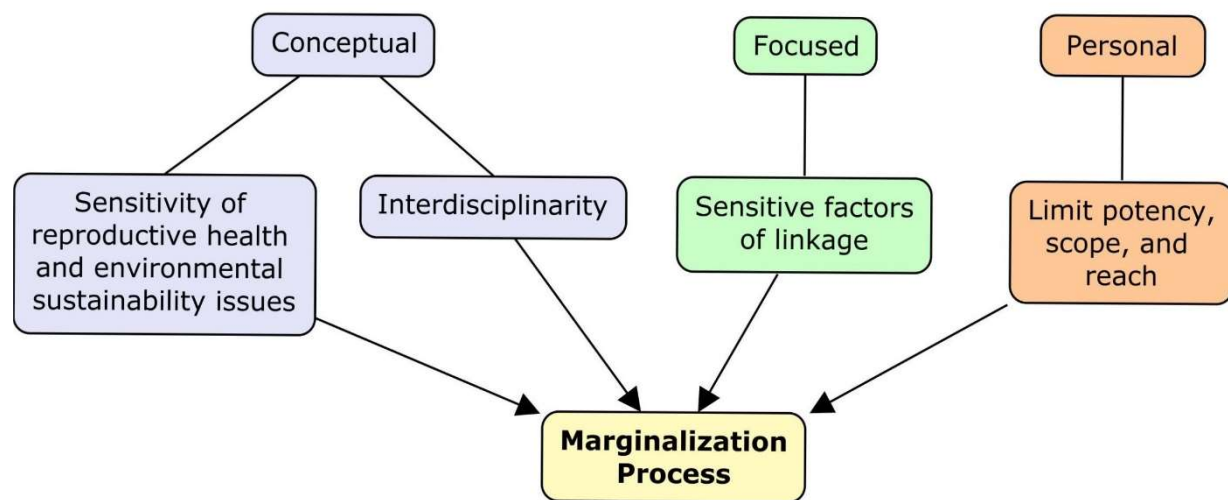
The Marginalisation of Population in the Anthropocene

The linkage is topical: the way in which we perceive the environmental changes caused by human activities is rapidly evolving and may contribute to shifting the ideological, discursive, and normative framework of the reproductive rights movement. Accompanying our increasing knowledge of the growing scale of earth's environmental degradation is a profound reframing of the relation between human beings and the planet. Terminology such as the notion of 'anthropocene', referring to a new geological age triggered by the scale of human impact on the environment (Crutzen, 2006), the 'Sustainable Development Goals', where sustainability becomes the overarching framework for development, and the recent impetus to move from 'environmental degradation' and 'climate change' to declaring a 'climate crisis' or 'emergency' (editor, 2019), bring this reframing into light. Within this reframing global human population size emerges as a key factor by which to re-examine the relation between humans and their environment. As such, human reproduction—and, by extension, access to family planning—arise as central ethical issues (Rieder, 2016; M. Taylor, 2019).

Research indicates that stakeholders of the reproductive health and rights and environmental sustainability movements are largely supportive of re-framing reproductive rights in a sustainable frame, but that the linkage could be characterised as 'marginalized' (Delacroix, 2022). As a result, presenting it in a manner that is acceptable and attractive to both movements is difficult. Marginalisation processes surrounding the linkage take place at multiple and interrelated levels. Figure 5.1 provides a conceptual map of these processes, structured around three levels: the conceptual, the focused and the personal.

Figure 5.1

The authors' conceptualization of the marginalisation processes surrounding the family planning and environmental sustainability linkage



At the conceptual level, we start by reviewing how each of the two key components that make up the linkage, reproductive health and rights and environmental sustainability, are individually marginalized. Rising populism combined with a distrust of experts and misinformation regarding the importance of climate change and environmental degradation contribute to marginalisation processes (Green, 2020). Arousell and Carlborn documented, in a study of culture and religious beliefs in relation to reproductive health, that religion is often all but inseparable from questions of sexuality and reproductive health (2016). In turn, the sensitivity of reproductive health issues has led to the omission of rights language in relation to

sexual and reproductive health in international agreements (Orza et al., 2017), and to the exclusion of population and family planning from many discussions of climate change, conservation and food security (Potts, 2014b).

We also review how the interdisciplinary nature of the linkage contributes to its marginalisation. The reproductive health and rights and environmental fields have different origins and goals, and operate in distinct, largely non-communicating spheres. Stakeholders of the reproductive health and rights and environmental sustainability movements identified this as a barrier to the acknowledgment and operationalisation of the linkage (Delacroix, 2022), corroborating research documenting the challenges of interdisciplinary endeavours. The many barriers associated with working across established boundaries of scholarly communities are well documented, and range from the difficulty of finding a common acceptable language to finding funding and crossing organizational and subject matter ideological boundaries and subject matter ideological boundaries (Cooke et al., 2020). As a consequence, interdisciplinary research tends to remain at the academic margins (Bammer, 2013). Moreover, because the linkage is broadly constituted of two disciplines, one mostly associated with the natural sciences (environmental sustainability), and the other with the social sciences (reproductive health and rights), an additional layer of difficulty to communicate is added. Research indicates that in such situations, there is a tendency to relegate the social sciences to a secondary position (Hulme, 2011; Mason & Rigg, 2019, p. 6).

We characterised the next level of marginalisation as ‘focussed’ because it focusses on the interaction of the linkage’s subject matter components. Here, we note factors that make the linkage a sensitive issue, including: the human rights abuses that have sometimes occurred in the name of ‘population control’; the discrimination and racism that were associated with some

policies aiming to control individual fertility; the injustice arguably inherent in implying that groups with high fertility and low environmental footprints are particularly to blame for environmental unsustainability; and the difficulty and uncertainty existing in conceptualizing a sustainable and rights-based frame linking the linkage's components.

Lastly, we indicate that marginalisation processes also take place at the individual level. Research indicates that addressing the linkage gives rise to strong emotional responses, including feeling happy, relieved, angry, or anxious (Delacroix, 2022). Emotions play a distinct but integral role in shaping opinion, which scholars have associated with automatic as opposed to controlled decision making processes (Lieberman, 2007; Stucki et al., 2018). The lack of integration of these automatic decision-making processes (such as emotions) in environmental sustainability and climate change responses may limit their potency, scope, and reach. In their report on behaviour change for nature, Rare and the Behavioural Insights Team stress the importance of integrating the role that emotions play to shape behaviour in nature conservation initiatives.(2019). Gross and D'ambrosio explain that emotional responses are rooted in cognitive contexts, and that framing issues accordingly can have important influence on shaping responses (2004).

Population Reductionism

The marginalisation processes described above contribute, at each level, to a mechanism that we call 'population reductionism'. Population reductionism draws a parallel with Hulme's concept of 'climate reductionism', a process that 'reduces'—i.e., simplifies—complex questions about the relationship between climate, society, and the future (2011). We argue that 'population reductionism' is a mechanism whereby the complex ethical questions raised by the linkage are

downplayed and/or avoided. While Hulme explains that climate reductionism stems from the epistemological authority of the natural sciences over the social ones to predict future human/environment relations, we explain population reductionism in two central ways. The first one is the authority in contemporary thinking of the discourse of individual (reproductive) rights over collective ones (our collective right to a sustainable environment). This moral hegemony can be traced back to the ideological shift that took place at the International Conference on Population and Development (ICPD) in 1994, which marked the departure from questions relating to the size of populations, and the beginnings of the idea that women's empowerment is a more important key to human development (Coole, 2016; Halfon, 2007). Since the endorsement of the Cairo Consensus at ICPD, the population size variable has been downplayed, in large part because it doesn't fit the dominant ideological framework of reproductive rights, considered as exclusively private. In this context, a reading of contemporary reproductive rights as being exclusively individual acquires epistemological superiority over one that integrates environmental sustainability considerations.

The second mechanism triggering population reductionism stems from the perception that population size is a variable with little impact on environmental degradation and climate change. Coole explains that the reluctance to address population size as a variable in environmental degradation comes from the fact that consumption, technology and education are more direct pathways for environmental sustainability and do not carry the complex ethical implications of population (2016). Ignoring the role of population size in generating environmental impact is a deliberate strategy employed to avoid conflict and focus on messages that may benefit from broader public endorsement. Environmental journalist David Roberts explains, for example, that he is reluctant to talk about population despite recognizing it as a factor in generating

environmental impact (2017). He argues that addressing the linkage creates a situation where ‘in terms of public discussion and advocacy, anyone explicitly expressing that concern starts out behind the eight ball’. Like many others, he suggests that ‘the best ways to address population don’t necessarily involve talking about it at all’. Others go much further in their rejection of the population factor. Academic interest and research on the linkage is regularly denounced and vilified on the grounds that linking population reduction, family planning and environmental sustainability is a form of patriarchal domination to restrict or blame women’s bodies and that discriminates and contains groups in certain spaces of exclusion. For these reasons, Hendrixson issued a direct challenge to scholarship that links population reduction with climate change adaptation and mitigation and the survival of the planet, linking such endeavours with forms of ‘populationism’ or ideologies that attribute social and ecological ills to human numbers (Hendrixson et al., 2019).

While this attitude towards the population factor is changing as increasing scientific evidence demonstrates the role that population size plays for sustainability, population reductionism is still rife. Scholars in a multitude of academic fields have deplored the lack of attention to this issue (Bongaarts & O’Neill, 2018; Engelman, 2009; McFarlane, 2014; Newman et al., 2014; Speidel et al., 2009).

Framing the Linkage

Overall, the above-mentioned population reductionism and marginalisation processes contribute to keeping the linkage a taboo subject that few researchers and policy makers dare approach. Acknowledging this, we reflect on how to frame the linkage to make it more attractive and acceptable to policy makers, researchers, and the public at large. Elaborating a strategic

roadmap to promote the operationalisation of the family planning and environmental sustainability linkage is long overdue, as voices are increasingly raised to stabilize or reduce global population size. In 2019 for example, over 11,000 scientists around the globe were signatories to a declaration of climate emergency that identified population as one of the six critical and interrelated steps that can be taken to lessen the worst effects of climate change (Ripple et al., 2020).

There is evidence that changing the framing of a social issue can reinforce its moral appeal and diversify its support base. The ‘framing ability’ of a social movement is the ability to convince those in power of its claim for social change, requiring consistency with the audiences’ personal experiences as well as cultural resonance. Adding new frames to a movement thus has the potential to widen its appeal, as frames resonate differently with each individual, group, or organization (Kimport, 2016). Kimport compared the divergent successes of the marriage equality and abortion rights movements, and documented that framing marriage equality beyond a purely rights based language helped make this movement successful (Kimport, 2016). Her analysis finds that the marriage equality movement modified its social change message and diversified its organizational structure, enabling it to appeal to a wider and more heterogeneous audience, whilst the abortion rights movement largely stalled. Kimport argued that the abortion rights movement had the opportunity to learn from this process. We argue that this rationale fits the reproductive rights/environment nexus, as harnessing the linkage may indirectly benefit reproductive health and rights by diversifying the moral appeal of these rights. The linkage, just like the abortion and marriage equality movements, raises questions that contest normative constructions of sexuality as exclusively procreative and challenges deeply held social norms surrounding gender and sexuality. Promoting the message that the fulfillment of family planning

has positive environmental benefits would alter the current exclusively rights-based centered framing of reproductive rights. Including environmental sustainability concerns in the rationale for the need to advance reproductive rights is a claim that could contribute to promoting reproductive rights, by enriching and adding new frames – and new support, to its ideological framework. Research indicates that stakeholders of both the environmental sustainability and reproductive rights movements are largely supportive of integrating reproductive rights in a wider sustainability frame (Delacroix, 2022).

So, how do we frame the linkage in a manner that can overcome population reductionism and the broader marginalisation processes at play on this issue? To guide us in this endeavour, we turn to reviewing existing advice on how to talk about the population and environment connection. The reactions to an article by Wynes and Nicholas exploring which lifestyle choices had the greatest potential to limit greenhouse gas emissions provide useful insights on this matter: This article identified that having one fewer child was, by far, the most impactful action that could be undertaken at the individual level to limit greenhouse gas emissions (2017b). This finding generated widespread discussion and controversy, and Pedersen and Lam, in response to this article, developed a set of recommendations for scholars addressing population as an environmental issue (2018). They argued that Wynes and Nicholas' recommendation to have one fewer child was done in a manner that lacked the 'contextual information that such interdisciplinary topics require', which led to widespread criticism, including that the article reinforced the suspicion of the political right that the threat of climate change was a cover for reducing people's freedom, laid the responsibility of ecological collapse on the individual, and ignored the disparities in consumption between population groups (2018, p. 2). Pedersen and Lam recommended to scholars addressing population as an environmental issue to explicitly

state their positions on three key points to avoid misunderstandings and polarization. First, if focussing on the individual actions that can be undertaken to reduce environmental harm, scholars should also address the role of collective actions. Second, acknowledge that population size is not the only driver of climate change, and that different lifestyles and consumption patterns also play a role. Third, clarify to which extent reproductive autonomy should be respected if reproduction is to be contextualized as a sustainability issue.

The Global Footprint Network also laid out tangible advice on how to talk about the population and environment connection in a manner that is ‘productive and compassionate’ (Wackernagel, 2020). It identifies factors that make the population conversation difficult and proposes alternative messages. Table 5.1 summarizes the Network’s recommendations.

Table 5.1 Global Footprint Network Recommendations

Talking about population and environment ‘Do not’s’	Talking about population and environment ‘Dos’
Adopt a moralistic narrative, or focus messages of what people should do	Frame the debate around the benefits of investing in smaller families
Promote policies and practices that violate human rights and target specific groups	Develop policies that empower, work with, and listen to everyone
Focus on economic fears that economic expansion, pension schemes, or relative economic power require expanding populations	Recognize that in an overused world, shrinking populations can have a competitive advantage.
Communicate insensitive to downright racist message that are perceived as blaming the most vulnerable	Communicate compassionate messages that focus on how all people, particularly those with fewer economic possibilities, can be listened to and served best.
Choose the wrong spokespeople	Promote voices from young people from around the world.
Use the words ‘population control’	Favor messages on empowerment and respect

Engage in religious or polarizing issues	Stick to broader principles and a language of true compassion
Isolate population as a factor leading to ecological overshoot	Acknowledge the total realm of solutions that need to be implemented in order to succeed.
Make absolute or false statements such as ‘population reduction is the most effective way to combat climate change’	Use accurate statements that acknowledge all factors

Developing a Common Language... What to Include

As these examples show, talking about population size in connection to the environment requires clarifying the values associated with that discourse. The same applies when addressing the connections between family planning and environmental sustainability, because it is no doubt primarily through its influence on the size of a population that family planning impacts environmental sustainability (unconstrained access to family planning lowers fertility levels (Potts, 2014b)). To avoid polarization and miscommunication, communicating on family planning, population and environmental sustainability linkage thus requires several *explicit* statements:

The choice to have children, however few or many, rests with the individual. Fulfilling reproductive rights is integral to harnessing that linkage. Reproductive rights, as defined at the 1994 International Conference on Population and Development, must be fulfilled, and respected for everyone: ‘Reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health’. As such, acknowledging that family planning and environmental sustainability are related and can benefit each other does not threaten or compromise in any way the pursuit of the fulfillment of individuals’ reproductive rights. On the contrary, it constitutes an

opportunity to advance these rights by strengthening women and men's reproductive autonomy. Acknowledging that reproductive rights are individual rights does not mean, however, that collective rights to a healthy environment should not or cannot *also* be acknowledged.

The focus of connecting family planning with environmental sustainability is universal. Making this statement will avoid a misunderstanding often associated with the linkage, that promoting it may result in singling out population groups with high fertility levels and blaming them for generating environmental impact. Yet the linkage is universal, as it aims to fulfill everyone's reproductive rights, irrespective of fertility levels. This refers to one of the founding principles of human rights: universality and inalienability (Universal Declaration of Human Rights, 1948). The target audience for the operationalisation of the linkage is therefore not defined by the physical characteristics of individuals or groups, their income level, or their nationality, but is, rather, humanity as a whole. The FP2020 initiative was developed along the same line after the London Summit on Family Planning in 2012: its overall goal to enable 120 million additional women and girls to use contraceptives by 2020 was constructed as a global rallying cry, as opposed to a series of country-specific targets (Brown et al., 2014).

Population size is one of the variables that impacts environmental sustainability, but hardly the only one. There is concern that addressing the linkage may divert attention from other important drivers of environmental impact (C. J. Bradshaw & Brook, 2014; Delacroix, 2022; Roberts, 2017). Focussing on the linkage could provide an opportunity for highly consuming nations, groups, and industries to divert their culpability for environmental degradation towards high fertility groups. Because high fertility groups tend to have lower footprints, this displacement of responsibility would not only allow the industries, systems, and lifestyles of those with heavy footprints to continue with business as usual but would also exacerbate global

injustices. For this reason, it is necessary when discussing the linkage to include a statement acknowledging that influencing global population size is one of many strategies to consider to improve global sustainability but is not the only one. Individuals can be empowered to take action to minimize their footprints, but it is also important not to place, or be perceived to place the entire burden of environmental degradation on the shoulders of individuals. To achieve effective change, upstream practices associated with consumption in all its forms must be re-envisaged. Large-scale policy, economic, social and technological changes are required to create a more sustainable society.

Developing a Common Language... What to Avoid

Because of its sensitive nature, the intersection between population dynamics, family planning and the environment requires careful choice of language. Most importantly, the expression ‘population control’ must not be used in a positive sense, for example, as a means to a beneficial end. The phrase population control broadly evokes a number of policies that were undertaken in the second half of the twenty first century, often aiming to reduce levels of fertility through the use of family planning. It is still used in this way by some people but should be avoided for two key reasons: 1) It states an impossible objective, as human population is not subject to control by anyone. 2) It implies that someone—presumably governments—should attempt the impossible by restricting reproductive rights.

Another reason why the phrase ‘population control’ should be avoided is the concern that it could appear to support the idea that human rights violations may be permissible if the objective is slower population growth. There is a debate among many supporters of family planning and reproductive health and rights over how extensive such violations have been and

how to communicate about them. This may depend upon whether a historical exploration is necessary or useful in specific contexts. In any case, human rights violations in the name of ‘population control’ should not be hidden. Moreover, these violations remind us to be vigilant in ensuring that policies promoting family planning and environmental sustainability should never be used again to restrict reproductive autonomy.

The semantics of the expression ‘population control’ is also problematic, as promoting the linkage is striving to empower individuals to achieve their own reproductive goals, and empowerment is antithetical to external control. Accordingly, promoting the linkage cannot involve posing any judgement on the size of any individual family, however large or small. As such, the message that smaller families can be beneficial for the environment should be communicated as a broad, general principle, one that does not hamper the fact that reproductive choices are subjective, and ultimately rest with the individual. Education and informational dissemination on this linkage might lead to free decisions by individuals and couples to have fewer children than they otherwise might.

We have seen that it was useful to clarify assumptions underlying the linkage and that the phrase ‘population control’ should be rejected when referring to the positive implications of the fulfillment of reproductive rights on environmental sustainability. Adopting these guidelines will result in less polarization around the linkage and higher chances that messages on the integration of reproductive rights and environmental sustainability will be accepted and endorsed. But several authors and policy makers have suggested that acknowledging the positive impact of family planning on environmental sustainability was unproductive, because other, less charged messages also had the effect of lowering fertility levels (Roberts, 2017). While conflict avoiding strategies can be productive, communication scholars stress that conflict can be a

beneficial tool for communication, as it can stimulate interest and invoke change (Putnam, 2013). We argue that the time is right to discuss population issues more openly. Moreover, purposefully ignoring the message that slowing population growth is beneficial for the environment poses an ethical dilemma. As individuals become increasingly concerned with environmental degradation and climate change (Corner et al., 2020), it seems obvious that they should have the opportunity to be informed of the significance of their individual lifestyle and reproductive choices. The commonly promoted strategies to improve environmental sustainability (such as recycling, for example) often do not correspond to the lifestyle actions with the greatest potential to reduce emissions (Wynes & Nicholas, 2017a). As such, individuals are often denied key information that could empower them to act towards a sustainable future. Withholding this information is, at the very least, unjust and paternalistic, and constitutes a form of contributory negligence towards achieving a sustainable balance with the environment.

Capitalising on the Linkage as a Message of Empowerment

We propose that the guiding principle for framing the linkage between family planning, population size and environmental sustainability be one of Empowerment: Empowerment for reproductive rights; Empowerment for happiness and well being; and Global Citizen Empowerment.

Empowerment for reproductive rights: As we have seen above, linking family planning with environmental sustainability constitutes an opportunity to advance reproductive rights by both diversifying the moral appeal of these rights and by opening new funding and programmatic opportunities for the reproductive rights movement. Environmental concern grows fast across large segments of the population, and the reproductive rights movement can benefit from such a

large endorsement. Not only do reproductive rights supporters gain a new motivation to strengthen their support and commitment to these rights, but new segments of the population, motivated by a desire to act for environmental sustainability could also emerge to support reproductive rights. Many feel unconcerned with family planning, perhaps because their reproductive needs are fully met or not a current concern in their lives, or for other, more complex reasons. But information on climate change and environmental degradation is pervasive and alarming, making it a difficult subject to avoid. As such, support for the acceptability, accessibility and availability of quality family planning services may well come from those who have become concerned about environmental sustainability in recent years.

On the other hand, acknowledging the positive impact that family planning has on environmental sustainability via its impact on fertility levels allows for the integration of reproductive autonomy goals in environmental policies and programs, thereby opening myriad opportunities: new partnerships, funding and programmatic opportunities, institutional capacity and increased commitment for integrated approaches to a sustainable future. Stakeholders of the reproductive rights and the environmental sustainability movements are in favor of integrating reproductive health and rights in a wider sustainability frame that would reflect environmental considerations (Delacroix, 2022). Rising concerns about environmental degradation (Fagan & Huang, 2020) and its influence on fertility levels decisions and desires (Relman & Hickey, 2019) suggest that this finding also applies to the general population. Integrating reproductive health and rights in a wider sustainability frame is an approach that is also consistent with population, health and environment programs, which aim to improve environmental and social outcomes and simultaneously prioritize family planning and reproductive health services with environmental objectives (Yavinsky et al., 2015). In 2017, the European Parliament Committee on

Development urged the adoption of such programs to provide integrated solutions to health, gender and environmental challenges (2017). The fulfillment of reproductive rights is thus already increasingly perceived and recognized as a valid pathway for climate change adaptation and mitigation strategies, and to relieve human pressure on the environment. But concrete action is slow on this matter. Mutunga and Hardee pointed out that despite the explicit identification of population growth as a compounding factor for climate change and environmental degradation by some of the countries most at risk of suffering from climate change, National Adaptation Programmes of Action (NAPA) funds did not prioritize this issue, resulting in a missed opportunity to advance reproductive health and family planning (Mutunga & Hardee, 2010). NAPAs are submitted to the United Nations Framework Convention on Climate Change secretariat and ‘provide a process for Least Developed Countries to identify priority activities that respond to their urgent and immediate needs with regard to climate change – those needs for which further delay would increase vulnerability or lead to increased costs at a later stage’ (United Nations Climate Change, n.d.). Ninety-three percent of the first forty submitted NAPAs identified that demographic trends interacted with the effects of climate change (Bryant 2009, 852).

Empowerment for happiness and well being: In their exploration of the mechanisms that drive fertility decisions, Tal and Kerret suggest that positive psychology can play a key role in promoting individual decisions to have fewer children (Tal & Kerret, 2020). They acknowledge that, going beyond the influence of societal norms encouraging individuals to have children and the different cultural norms driving reproductive decisions across the world, ‘individual pregnancy decisions are frequently a reflection of a belief that a new child will produce happiness for the mother, couple and family’ (2020, p. 4). They explore related research and

found otherwise: a negative correlation between number of children and the well-being and happiness of both parents and children. Smaller families were associated with better health, education, quality time, more privacy, stronger marriages, and careers. Tal and Kerret propose to promote messages that communicate the benefits of investing in smaller families: improved individual happiness for children and parents, and improved societal benefits associated with a more sustainable future. This positive approach focusses not on the problem (the negative impact of a growing global population on the environment), but on ways to address it (promoting smaller families empowers individuals to live a happier life). The positive psychology approach to communicate the message that smaller families are beneficial for parents as well as children fits research on individual behaviour for climate change: whilst knowledge about climate change predicts intentions to act more sustainably, it does not translate into concrete actions (Hsu & Lin, 2015). It is well documented, however, that emotional processes play a significant role in determining the effectiveness of environmental communication for behaviour change and decision making (Morris et al., 2019). As such, the message that empowered, smaller families are better for the planet fits this principle.

Communicating this message also constitutes an opportunity for individual self-improvement: the existential questions that arise through a critical reflection on climate change lead to an exploration of life, meaning, and interconnectedness—how do we relate to ourselves, other people, nature, societies and the global community?—(Lehtonen et al., 2019, p. 364). The reluctance to consider the linkage between family planning and environmental sustainability is documented across many sectors (van Dalen & Henkens, 2021), signalling that such a critical reflection may be missing from our lives. Interconnectedness is also a message that resonates well with policy makers and researchers: many influential initiatives and concepts were

developed on this notion of interconnectedness, such as the One Health approach, recognizing that human health is closely connected to the health of animals and our shared environment, the rapidly growing Planetary Health movement, based on the idea that human health and the health of the planet are related, or ideas in environmental philosophy, such as Mathews' proposition of an ethic of bio-proportionality seeking to balance the populations of every species with an ecologically proportionate abundance of the populations of all other species (Mathews, 2016; Myers & Frumkin, 2020; Whitmee et al., 2015b). These movements and concepts have gained wide ranging acceptance and legitimacy and have in common the acknowledgment of the interconnectedness of human health and their environment, carrying implications for human population size.

Global citizen empowerment: This encompasses both the intrinsic right to be informed of the relation between global population size and environmental impact, discussed above, and, flowing from this awareness, to be given the opportunity to make individual decisions that influence environmental sustainability. Climate change and environmental degradation awareness negatively impacts emotional well-being, a phenomenon that is more prevalent in younger adults (Clayton & Karazsia, 2020). Feelings of hopelessness, anger, and anxiety are reported (Clayton, 2020; Williamson et al., 2018). Individual decisions to have smaller families will obviously not erase the threat of environmental degradation but may play a role in diffusing the negative feelings of hopelessness and anxiety that are experienced with them. Being empowered to make decisions that have the potential to have a long term impact in the sustainability of the planet is a valid coping mechanism. Acting to minimize the impact of one's environmental and carbon legacy by choosing to have fewer or no children may thus be a pathway to cope with climate anxiety and hopelessness, especially when knowing that making

and implementing this decision is the most important high impact action for individual behavior to minimize CO2 emissions (Wynes & Nicholas, 2017a). Research indicates that climate change and environmental degradation already influence fertility behaviours and outcomes (Relman & Hickey, 2019; Sellers & Gray, 2019). As such, the message that happy, smaller families are better for the planet allows for a more positive decision-making process that not only contributes to relieving a feeling of hopelessness in the face of environmental degradation, but also creates win-win situation where the perceived need to reduce fertility is compensated by the awareness that fewer offspring will likely bring parents and children significant benefits.

Conclusion

We mapped the marginalisation processes at play surrounding the family planning and environmental sustainability linkage, and introduced the concept of population reductionism, a mechanism whereby the complex ethical questions raised by this linkage are downplayed and/or avoided. To overcome these marginalisation processes, we reflected on how to frame this issue to make it more attractive and acceptable to policy makers, researchers, and the public at large. We delved in social change movement studies to explore the role that framing could play to influence the success of a social issue and reviewed existing advice on how to communicate related messages. We elaborated a strategic communication roadmap to promote the operationalisation of the family planning and environmental sustainability linkage, centered on individual empowerment, and proposed a global rallying cry that reflects the public's heightened concern for climate change and environmental degradation: 'empowered, smaller families are better for the planet'. While this essay offers preliminary guidance to communicate productively

on the family planning and environmental sustainability linkage, further research examining the adequacy and acceptability of the rallying cry language is necessary.

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Chapter 6: Discussion

Discussion

A Reflection on Communication

The message that fulfilling reproductive rights has the potential to improve environmental sustainability is difficult to convey. It involves very different and complex concepts, reproductive rights and environmental sustainability, and an unusual proposition to link them to advance their respective, and common, interests. For this reason alone, communicating messages surrounding the linkage can be challenging, whether such messages are targeting general or specialized audiences. Looking back, a large part of this research work was about communication.

I conducted an iterative reflection process on the terminology associated with my research goals and questions. After exploring how this issue was represented in the literature, the exploration of stakeholders' perceptions of the reproductive health and rights and environmental sustainability movements provided insights on the nature of related messages and terminology. This reflection process culminated with the article "Empowered, Smaller Families are Better for the Planet: How to Talk about Family Planning and Environmental Sustainability", where I explored the language associated with the family planning and environment connection.

I strived to actively engage in dissemination processes as my research was situated in an action research frame, and considered the lack of attention and scholarship on the interaction between family planning and environmental sustainability as a missed opportunity for both the fulfillment of reproductive rights and for helping humans achieve a better balance with their environment (Bongaarts & O'Neill, 2018; Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, Hunter, et al., 2016; Newman et al., 2014). My research findings also indicated that a tool to promote the operationalisation of the family planning and environmental sustainability linkage

was overdue, as voices are increasingly raised to stabilize or reduce global population size, and fulfill reproductive rights (Ripple et al., 2020). Dissemination refers to the conscious efforts to spread new knowledge, ideas, policies, and practices to specific target audiences or to a public at large (Green et al., 2009). As starting points for the dissemination processes was the engagement with stakeholders of both movements with the online survey and in-depth-interviews, and the publication of articles.

My research indicated that most actors of both the reproductive rights and environmental sustainability movements appeared in favor of finding a way to link reproductive rights and environmental sustainability conceptually and practically, by integrating reproductive health and rights in a wider sustainability frame reflecting environmental considerations. It also indicated that a minority of reproductive health and rights stakeholders were more likely than environmental sustainability stakeholders to conceive human rights (perceived as individual) and environmental objectives (perceived as collective) as fundamentally incompatible, and to reject this proposition altogether. Both of these findings matter for future research on the linkage. They highlighted that this field of inquiry continues to be polarizing and sensitive, indicating a need to create or develop platforms for constructive dialogue and for ongoing research.

Linking reproductive rights and environmental sustainability is perceived by some as a pursuit that inexorably leads to racism and coercive practices performed to limit fertility. But for a majority, it is the way in which this issue will be framed and communicated that will determine if it might constitute an acceptable pathway to fulfill reproductive rights and advance environmental sustainability. For this reason, finding and communicating a framing that reflects the values of reproductive autonomy and fairness was needed. Understanding the marginalization processes at play surrounding this issue was the first step in this process and was followed by the

development of guidelines to talk about the family planning and environmental sustainability linkage. These guidelines were inspired by previous advice on communicating about the linkage, by social movement theory, climate communication, and psychology. They suggest to center on a message of empowerment at three levels: *empowerment for reproductive rights* (the linkage can contribute to the advancement of reproductive rights), *empowerment for happiness and well being* (promoting messages that communicate the benefits of investing in smaller families), and *global citizen empowerment* (encompassing both the intrinsic right to be informed of the relation between global population size and environmental impact to be empowered to make individual decisions that influence environmental sustainability). Concluding this reflection on communicating messages on the linkage, I proposed a global rallying cry that reflects the public's heightened concern for climate change and environmental degradation: 'empowered, smaller families are better for the planet'.

A Reflection on Interdisciplinarity

One of the challenges of addressing the reproductive rights and environmental sustainability linkage is that its subject matter spans across disciplinary boundaries. The linkage can be approached from a multitude of scientific disciplines, which operate in distinct spaces, mindsets, and have separate audiences. These include environmental philosophy, environmental ethics, ecology, conservation science, climate science, land planning and urban studies, sexual and reproductive health, sexual and reproductive rights, gender studies, sociology, feminism, demography, etc. These disciplines span from the natural to the social sciences and encompass fields of research with wide epistemic differences. Irrelevant of the disciplinary angle from which the linkage is studied, at its heart lies the integration of a natural sciences component,

related to the physical environment (environmental sustainability, environmental degradation, climate change, earth's carrying capacity, etc.), and a social or health sciences component, related to the fulfillment of reproductive rights (or sexual and reproductive health, family planning, etc.). The type of interdisciplinarity resulting from the integration of these fields is called "big" or "wide" (Kelly, 1996; Morillo et al., 2003), and contrasts to interdisciplinarity resulting from the integration of research fields that share epistemic foundations. Big interdisciplinarity brings many challenges, and previous studies have documented the difficulty to collaborate on research that bridges such wide disciplinary borders (Bock von Wülfingen, 2021). Moreover, the barriers associated with interdisciplinarity in relation to the reproductive rights and environmental sustainability linkage are compounded by a number of factors, namely: the lack of funding and volatility of political commitments for the environment and for reproductive health and rights, (Howes et al., 2017; Starrs et al., 2018); the sensitive nature of this subject matter; the fact that when one discipline is associated with the natural sciences and the other with the social sciences, the latter tends to be relegated to a secondary position (Mason & Rigg, 2019). I documented the multiple ways in which this field of inquiry is marginalized. This research will hopefully play a role to prevent it from remaining at the academic margins, a situation documented for interdisciplinary research (Bammer, 2013).

A reflection on theoretical lens

I adopted a human rights approach for this research project, and centered my approach on reproductive rights more specifically. Reproductive rights rest on the assumption that all have the basic right to choose freely and responsibly the number and spacing of their children. This approach not only implies that individuals and couples have the right to be free from coercion and violence on their reproductive choices, but also implies a positive right, i.e., that they are

entitled to the means and information required to be able to make these choices (Hardee, 2014). Other perspectives, such as reproductive justice or feminism, could have been chosen or added for the exploration of the synergy between reproductive rights and environmental sustainability. Reproductive justice places an emphasis on redressing the structural inequities associated with the population groups who tend to have lower reproductive health outcomes, and who have been disproportionately affected by coercive practices and human rights violations perpetrated in the name of demographic, or other, objectives. The concept of reproductive justice is fairly recent (it emerged during the Cairo conference in 1994), and originates from the United States, where feminists of color drew attention to the injustices surrounding reproductive health and rights, especially in black communities (Luna and Luker, 2013). While it draws attention to the intersectionality of the drivers of inequity surrounding reproductive health outcomes, the reproductive justice frame appeared to me as less globally relevant than the dominant human rights frame. Looking back, a reproductive justice frame could have been combined to the reproductive rights frame of this research project, as, in a pragmatic spirit, it could have made the findings more actionable. Indeed, the spaces of contestation of rights are difficult to access, because of the language, time and financial barriers associated with legal systems. As Luna and Luker explain, a social movement, instead of a rights one, eschews such barriers (2013).

Enabling Change: the FPESA and FP/Earth Project

In 2020, I became the Executive Director of the Family Planning and Environmental Assessment Project (FPESA Project). FPESA was a Worldwatch Institute project created in 2014 by Robert Engelman, a researcher and author whose expertise on population and environment and planetary health is well recognized. The goal of the FPESA project was to assess peer-

reviewed scientific research related to family planning and the environment to address whether evidence supported the claim that voluntary family planning promoted environmental benefits; and whether this connection was of interest to researchers and others from high-, low- and middle-income countries (Engelman, Terefe, Gourmelon, Yang, Bish, Fanta, & Hunter, 2016). The research team, consisting of international researchers and field practitioners, was selected to reflect diversity in the assessment network. The team established a literature search protocol and evaluated 939 papers published in peer-reviewed journals. In 2016, this team published a report of the findings.

Research findings included that scientific research published since 2015 rarely considered directly the hypothesis that family planning benefits environmental sustainability; that access to and use of family planning reduced fertility; that an overwhelming majority of researchers who explored relationships between population growth and environmental degradation found or asserted that the former is an influential factor in the latter; and that a sizable minority of authors called for improvements in access or services to family planning as one way to slow environmental degradation. From 2016 until 2020, the FPESA Project remained largely dormant, except for a website presence, and ongoing dissemination of the report. In 2020, the FPESA project became supported by the Population Institute, an international, US based non-profit (501(c)(3)) that seeks to promote universal access to family planning information, education, and services (www.populationinstitute.org). In 2021, we renamed FPESA to FP/Earth (www.fpearth.org). FP/Earth will continue to focus on gathering the evidence that human reproductive autonomy and environmental sustainability are positively connected.

The main difference, and reason for the name change from FPESA to FP/Earth is that the

assessment component of the project was dropped. We have also slightly shifted the focus of our search for evidence to reflect a context that changed since 2016, a context where global awareness of environmental degradation and climate change has continued to evolve, and where research on the linkages between climate change and environmental degradation, and population size and/or reproductive health and rights is soaring. FP/Earth considers the following statements as pillars of the project:

- Access to and use of family planning — specifically effective modern contraception — reduces fertility and facilitates delayed and more widely spaced childbirths, slowing population growth.
- Slowing population growth tends to lessen the risk of dangerous environmental changes and to enhance the potential for societal resilience to climate change, water scarcity, food insecurity, the loss of biological diversity, and related threats.
- Many barriers to accessing modern contraception exist.
- By reducing unintended pregnancy and facilitating personal choices on the number and timing of births, family planning expands opportunities available to women and girls.
- Women empowerment contributes to environmental sustainability. Women act as “stewards of the environment”.
- The national and gender diversity evident among authors of papers and members of the FPESA international assessment network confirms that research interest in linkages between family planning and environmental sustainability is diverse and widespread among genders and in both low, middle, and high-income countries.

Project Rationale and Values

The following statements, extracted from the FP/Earth website, present the rationale and values for the project:

“Taking actions that slow or eventually halt population growth, actions with multiple other benefits to health and the well-being of women, offer cost-effective ways to address climate change and environmental degradation. Removing existing barriers to family planning can help fulfil women and men’s reproductive rights, as well as bring positive environmental impacts. We believe that the positive impact of voluntary family planning on environmental sustainability needs to be acknowledged, promoted, and harnessed. We believe that a fair and balanced exploration of the evidence of these important connections can promote both better lives for girls and women worldwide while promoting health and a sustainable environment that will support human activities for generations to come”.

The FP/Earth project grounds its approach to the family planning and environmental sustainability linkage in the following axioms:

- Reproductive rights, as defined at the 1994 International Conference on Population and Development, must be fulfilled and respected: “Reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health”.

- Influencing global population size is one of many pathways to consider in our efforts to be more sustainable. Reducing population size on its own will not solve climate change and environmental degradation, but is part of a wider set of options to improve global sustainability.
- Access to and use of family planning reduces fertility and facilitates delayed and more widely spaced childbirths, slowing population growth.
- Empowering women leads to smaller families with more educational opportunities. In turn, family planning expands opportunities available to women and girls by reducing unintended pregnancy and facilitating personal choices on the number and timing of births.

Alignment Between FP/Earth, Other Outreach Activities, and the Thesis Project

The development of the FP/Earth project reflected both the action research frame and a knowledge dissemination imperative. As a collaboration and learning platform, it can be understood as a dissemination tool, using various means of communication: a website, social media presence (Twitter, Facebook and Instagram), blogs, oral presentations. FP/Earth seeks to develop a network of researchers, students, policy makers and advocates, anyone interested in addressing and learning more about the family planning and environment linkage. It is also a learning and resource platform, as it offers a bi-annually updated selected library of research. I developed a systematic process for identifying resources for evaluation and assessment. I adapted the FPESA report search protocol to obtain a manageable number of results whilst remaining faithful to our inclusion objectives. As of June 2021, 373 entries were selected for inclusion in the selected library, organized in seven groups: key resources linking family

planning and the environment, gender and the environment, population pressure and the environment, human reproduction, family planning, articles critical of the family planning and environment link and other articles. FP/Earth also offers opportunities to present academic research in a manner that is accessible to lay audiences. For example, Figure 6.1 is an infographic created to represent the FP/Earth message in a fun, and simplified manner.

Infographics are communication tools that can help make complex topics more easily understood by members of the public, and complement research to spark interest and raise awareness on a complex issue (Scott et al., 2016).

Figure 6.1

FP/Earth Launch Infographic



It is with a similar knowledge dissemination objective that I wrote and published in The Hill Times, a newspaper and daily news website focusing on Canadian news and politics, “A plea to acknowledge the population factor”, a piece addressing a risk associated with avoiding to address the role of the population factor in environmental impact: that related messages become appropriated by groups who may not see that slowing population growth and improving environmental sustainability meet with the realization of reproductive rights for all people (Appendix J). I also contributed to the Earth Overshoot Network Voices initiative, aiming to highlight the voices of individuals who work in population-related fields or at the intersection of health and environment. In my “Population Voice” (Appendix K), I reflected on the population and environment linkage and explained that I perceived it as a window of opportunity to improve reproductive rights and environmental sustainability. Finally, I started a series of interviews with the FP/Earth project aiming to represent the richness of the scholarship on the reproductive rights and environmental sustainability linkage, from the perspective of a variety of disciplines. For example, I recently featured in our blog an interview with Dr. Freya Mathews, an environmental philosopher, on her concept of “bioproportionality”. The idea of bioproportionality is that the population of every species should be as abundant as is consistent with an ecologically proportionate abundance of the populations of all other species (Mathews, 2016). I intend to conduct other interviews on concepts and research related to the reproductive rights and environmental sustainability linkage, and to ensure that they reflect the diversity of academic fields from which they originate. This approach capitalizes on interdisciplinarity as an advantage as opposed to a barrier.

Concluding Remarks

This research project confirmed that the time was right to embark in a journey to re-conceptualize reproductive rights in the light of their positive impact of environmental sustainability. While this issue remains sensitive and polarizing, it appears that there is a general desire to address and promote the reproductive rights and environmental sustainability linkage, in order to advance both of these fields. Moving forward, the marginalization processes at play on this issue and the interdisciplinary nature of the linkage should be treated as engines of innovation, as opposed to barriers and limitations (Bock von Wülfingen, 2021). There are many pathways to explore to advance this field of research, as much research must still be done to better understand its implications and implementation. I conclude this project by proposing the global rallying cry “Empowered, Smaller Families are Better for the Planet” as a starting point in this exploration.

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Appendices

APPENDIX A: Ethical Approval from Ethics Review Board, University of Ottawa

File Number: 12-17-05

Date (mm/dd/yyyy): 02/09/2018



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Certificate of Ethics Approval

Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Angel	Foster	Health Sciences / Interdisciplinary School	Supervisor
Celine	Delacroix	Health Sciences / Interdisciplinary School	Student Researcher

File Number: 12-17-05

Type of Project: PhD Thesis

Title: Harnessing the positive impact of family planning on environmental sustainability: A qualitative research project to reduce the unmet contraceptive need

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
02/09/2018	02/08/2019	Initial

Special Conditions / Comments:

N/A

File Number: 12-17-05

Date (mm/dd/yyyy): 02/09/2018



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement and other applicable laws and regulations in Ontario, has examined and approved the application for ethical approval for the above named research project as of the Ethics Approval Date indicated for the period above and subject to the conditions listed the section above entitled "Special Conditions / Comments".

During the course of the study the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the study (e.g. change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, information/consent documentation, and/or recruitment documentation, should be submitted to this office for approval using the "Modification to research project" form available at: <http://recherche.uottawa.ca/deontologie/submissions-and-reviews>.

Please submit an annual status report to the Protocol Officer 4 weeks before the above-referenced expiry date to either close the file or request a renewal of ethics approval. This document can be found at: <http://recherche.uottawa.ca/deontologie/submissions-and-reviews>.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.


Germain Zongo
Protocol Officer for Research Ethics
For Dr. Barbara Graves, Chair of the Social Sciences and Humanities REB

APPENDIX B: Online Survey Recruitment Letter

Dear [XXX],

My name is Céline Delacroix, I am a PhD Candidate in the Department of Health Sciences, University of Ottawa in Canada. Under the supervision of Dr. Angel Foster, I am conducting research on the linkages between reproductive health and rights and environmental sustainability. I am looking for participants who identify as active stakeholders in the Sexual and Reproductive Health and Rights or Environmental Sustainability movements to complete a short online survey.

My research rests on the premise that environmental sustainability and reproductive rights have synergistic interests: when family planning becomes available, fertility levels decrease. My goal is to analyse how this relationship could be used to increase the legitimacy, funding and acceptance of reproductive rights. However, tying family planning to population growth is controversial, and is generally avoided by the Sexual and Reproductive Health and Rights movement as well as the Environmental Sustainability movement. To address these issues, I am aiming to answer the following questions:

- 1) How do stakeholders perceive the relationship between family planning, population growth, and environmental sustainability and what opportunities and challenges do they perceive to this integration?;
- 2) What opportunities exist to integrate environmental sustainability objectives into the ideological framework of the Sexual and Reproductive Health and Rights movement?; and
- 3) Which steps and/or instruments are required to reduce the unmet need for family planning and leverage its impact on environmental sustainability?

I hope you will agree to participate in this study. This is a chance to be part of a discussion that could help strengthen reproductive rights and lead to a better understanding of the association between family planning, population growth, and environmental sustainability.

The survey is available here [link], will take approximately 20 minutes to complete, and will contain closed and open-ended questions. The survey is anonymous, and any information that could identify you will be removed in subsequent reports and/or articles.

If you have any questions or concerns regarding this survey, please do not hesitate to contact me by reply to this email at @uottawa.ca

Sincerely,

Céline Delacroix, PhD(c)

PS: I am actively looking for participants. Feel free to circulate information about this research project to your networks!

APPENDIX C: In-Depth-Interview Recruitment Letter

Dear [XXX],

My name is Céline Delacroix, I am a PhD Candidate in the Department of Health Sciences, University of Ottawa. Under the supervision of Dr. Angel Foster I am conducting research on the linkages between reproductive health and rights and environmental sustainability. I am writing to you because I will shortly undertake in-depth interviews with key stakeholders in the Sexual and Reproductive Health and Rights and Environmental Sustainability movements. Because of your involvement in [specify movement], your participation would be very valuable to this research.

You may already have participated in the online survey entitled “Exploring stakeholder perceptions of the linkages between family planning and environmental sustainability”, and be familiar with this project. If you haven’t, here is a brief summary:

My research rests on the premise that environmental sustainability and reproductive rights have synergistic interests: when family planning becomes available, fertility levels decrease. My goal is to analyse how this relationship could be used to increase the legitimacy, funding and acceptance of reproductive rights. However, tying family planning to population growth is controversial, and is generally avoided by the Sexual and Reproductive Health and Rights movement as well as the Environmental Sustainability movement. To address these issues, I am aiming to answer the following questions:

- 4) How do stakeholders perceive the relationship between family planning, population growth, and environmental sustainability and what opportunities and challenges do they perceive to this integration?
- 5) What opportunities exist to integrate environmental sustainability objectives into the ideological framework of the Sexual and Reproductive Health and Rights movement? and
- 6) Which steps and/or instruments are required to reduce the unmet need for family planning and leverage its impact on environmental sustainability?

I hope you will agree to participate in this study. This is a chance to be part of a discussion that could help strengthen reproductive rights and lead to a better understanding of the association between family planning, population growth, and environmental sustainability.

The in-depth interviews will take place at a time that is convenient to you, via telephone/Skype, last approximately 40 minutes, and consist of open ended-questions. They will be audio recorded, strictly confidential, and any identifying information will be removed from any material that result from this study.

As this research project is participative in nature, I will also suggest that you provide input on the research documents (preliminary report, online survey report and draft interview guide) by adding your observations or comments. This process may take between 0 and 120 minutes, depending upon your desired level of involvement.

If you are interested in participating, or have any questions or concerns regarding this study, please do not hesitate to contact me by reply to this email at @uottawa.ca

Sincerely,

Céline Delacroix, PhD(c)

PS: I am actively looking for participants. Feel free to circulate information about this research project to your networks!

APPENDIX D: Online Survey Questionnaire

“Exploring stakeholder perceptions of the linkages between family planning and environmental sustainability”.

Introduction

Thank you for your interest in participating in our study! This study is a doctoral thesis project, being conducted by Céline Delacroix, under the supervision of Dr. Angel Foster at the University of Ottawa. Dr. Foster is an Associate Professor in the Faculty of Health Sciences.

Survey instructions

The purpose of this survey is to better understand how stakeholders perceive the relationship between family planning, population growth, and environmental sustainability. You are eligible to participate in this survey if you are an active stakeholder in the Sexual and Reproductive Health and Rights and Environmental Sustainability movements. This voluntary survey will take about 20 minutes to complete. You will be asked a series of questions about yourself, your professional activity, and your perceptions of the linkages between family planning, population growth, and environmental sustainability. After completing the survey, you will be directed to a separate webpage where you will be asked to indicate your interest in participating in a 40 minute telephone/Skype based interview and you will have the option of requesting the final results of the study. Contact information that you share on this page will be delinked to the information you provided in the survey and will be stored in a separate database.

Privacy and confidentiality

We will not ask you to provide personally identifying information as part of the survey. However, any information or personal details gathered in the course of the study are confidential. Because we are conducting an online survey using a tool with data storage outside of Canada, it is possible that the views and opinions expressed, and your IP address may be accessed and linked to you without your knowledge or consent by the U.S. government, under the U.S. Patriot Act.

Some free-answer responses may be quoted, but any identifying information will be removed or masked. If you do not want any of your responses to be quoted, please indicate so during the survey by typing “please do not quote this response.” Please note that once submitted you will not be able to withdraw the information you provide. Data from the survey will be stored on secure systems that can only be accessed by members of the study team for five years after the conclusion of the study.

In order to minimize the risk of security breaches and to help ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser and locking your screen or device when you are no longer using them / when you have completed the study.

Risks and benefits

There are few risks associated with participation in this study. Some of the questions that we ask may make you uncomfortable – you do not have to answer any questions that you do not want to. There are no direct benefits associated with participating in this study.

Your completion and submission of this survey will imply your consent for the study team to use of the information you supply in the publication of the results of this research.

Contact information

If you have any questions about this survey you may contact:

Angel M. Foster, DPhil, MD, AM

Céline Delacroix, LLB, MSc, PhD(c)

Project Supervisor

Principal Investigator

Phone: Phone:

Email: Email :

This study has received ethics approval from the Research Ethics Board at the University of Ottawa (File #12-17-05). If you have any questions regarding the ethical conduct of this study, you may contact: Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall; 550 Cumberland Street, Room 154; Ottawa, ON K1N 6N5.

Please print a copy of this page for your records

Part 1: Background information

1. What is your professional title?
2. Which type of organization do you work for?
3. In which field do you work? Select from: Sexual and Reproductive Health and Rights and health, Environment, Other (please specify).
4. In which country are you principally located (drop down list)?
5. What is the main focus of your work?
6. Do you identify with any of these roles? Select from: Family planning clinicians, Sexual and reproductive rights policy maker, academic or advocate, Environmental policy maker, academic or advocate, Population, health and environment policy maker, academic or advocate, Other (please specify).
7. How old are you? Select from: under 30, between 30 and 45, over 45.

Part 2: Perceptions

One of the well-documented effects of family planning is the lowering of fertility rates.

The availability, accessibility, acceptability and quality of family planning therefore impacts population growth.

Population size is one of three factors that creates an anthropogenic impact on the environment. The other two are consumption/affluence and technology.

1. The statements above indicate that linkages exist between family planning, population growth and environmental sustainability. Do you agree? Select from: yes (please explain), no (please explain), I am unsure (please explain).
2. How do you perceive these linkages?
3. In your professional experience did you address these linkages in your work? If so, how, and at which level?
4. How would you say that those working in your field perceive the linkages between family planning, population growth and environmental sustainability?
5. Would you say that your views on this issue are representative of those working in your field?
6. At work, how often did you discuss the relationship between population growth and environmental sustainability? Select from: Never, a few times, regularly, very often.
7. If you have discussed the population growth/environmental sustainability relationship, in what context was it, and under which circumstances? /Not applicable
8. At work, how often did you discuss the relationship between family planning and environmental sustainability? Select from: Never, a few times, regularly, very often.
9. If you discussed the family planning/environmental sustainability relationship, in what context was it, and under which circumstances? In your conversation(s) how did family planning relate to environmental sustainability? /Not applicable
10. In your opinion, how does family planning relate to environmental sustainability?

11. Topic sensitivity: On a scale of one to four, with one representing the lowest and four representing the highest, how would you qualify the sensitivity of the topic “addressing the linkages between family planning, population growth and environmental sustainability” in your professional field? (Topic sensitivity is the uneasiness with which the recipient would talk about this issue to others)
1-2-3-4
12. In your professional field, do you feel reluctant to express your opinions on this issue because of its associated stigma?
13. Topic involvement: On a scale of one to four, with one representing the lowest and four the highest, how would you qualify your involvement with the topic “addressing the linkages between family planning, population growth and environmental sustainability”?
14. Have you noticed an evolution in the way you perceive these linkages, or in the way others in your field respond to them? (Please explain)
15. Do you foresee a change or evolution in the way in which this topic will be perceived and addressed
 - in the SRHR field? yes/no (Please explain)
 - in the environmental field? yes/no (Please explain)
 - in the global development field? yes/no (Please explain)
 - Elsewhere (please specify)? yes/no (Please explain)
16. Climate change and environmental degradation threaten to undermine 50 years of progress in global health. In your opinion, does this make population dynamics considerations more relevant for reproductive rights policy and/or programming? (Population dynamics is the study of how and why populations change in size and structure over time). Yes (Please explain)/No (Please explain) /I am unsure (Please explain)
17. Because of the expected increasing rate and intensity of environmental catastrophes, Disaster Risk Reduction has shifted its approach from prevention to resilience. Do you think that family planning can be considered as a pathway to resilience because of its impact on fertility levels?
18. Analyses of global emission scenarios demonstrate that slowing population growth could lead to substantial emissions reductions and play an important role to avoid dangerous climate change. Does this influence how you perceive the linkages between reproductive health and rights and environmental sustainability?
19. Because of its impact on population growth, access to family planning can be perceived as a pathway to environmental sustainability. How do you react to this statement?
20. Tying family planning to population growth is often controversial. In your opinion, would this linkage be more acceptable if it only should be made to serve women with unmet need for family planning (women aged 15–49 who are seeking to stop or delay childbearing but are not using modern forms of contraception), and avoided raising questions related to fertility preferences? Please explain
21. In your opinion, should family planning be promoted as a tool to counter environmental degradation and to promote climate change mitigation?

Yes (Please explain) /No (Please explain)/Unsure (Please explain)

If you answered yes to this question: Which type of organizations are best suited to address these issues? Sexual and Reproductive Rights and Health organizations, Environmental organizations, Population Health and Environment organizations, Other (please specify), Any organization, Unsure

22. In your opinion, should the Sexual and Reproductive Health and Rights community use the positive impact of family planning on environmental sustainability as a tool ...

- to strengthen the availability, accessibility, acceptability, and quality of reproductive rights? Yes (Please explain) /No (Please explain)/Unsure (Please explain)

- to strengthen its social change message and appeal to new audiences? Yes (why) /No (why)/Unsure

23. In your opinion, should environmental organizations promote family planning as a tool to counter environmental degradation and to promote climate change mitigation?

24. In your opinion, should environmental organizations advocate for lower fertility levels to reduce anthropogenic impact?

25. How do you think that the positive impact of family planning on environmental sustainability may constitute an opportunity for the advancement of the sexual and reproductive rights field?

26. Which barriers do you perceive to the integration of family planning, population growth and environmental sustainability in the Sexual and Reproductive Health and Rights ideological framework?

27. Is there anything else that you would like to share with us about this subject?

Thank you for taking the time to complete this survey! If you would like to make any additional comments on these issues, please contact Céline Delacroix by email.

Results

Would you like to receive the results of this survey once they have been written into a report? Please note that the information you enter here will not be linked to your survey responses:

- Yes, please enter your email address _____
- No

Follow-up

In the next few months, we will be conducting interviews to learn more about stakeholder perceptions of the linkages between family planning, population growth and environmental sustainability. The telephone/Skype interview will take about 40 minutes and will be scheduled at a time that is convenient for you. Please note that the information you enter here will not be linked to your survey responses:

1. Would you like to participate in the follow-up interview?
 - Yes, please enter email _____
 - No
2. If yes, would you prefer to receive information about the interview in
 - English
 - French
3. If yes, would you prefer that the interview be conducted in

- English
- French

We are actively looking for participants. Feel free to circulate the link to this survey to your networks!

APPENDIX E: In-Depth-Interview Questionnaire

Background information

1. I'd like to begin by asking you to introduce yourself to me.

Probe: Name, age group, profession, country of origin/living

2. Could you briefly describe the main focus of your work?

Probe: Which field do you work into? Reproductive Health and Rights, Environmental Sustainability, Other (please specify).

3. Are you involved on the family planning/environmental sustainability linkage? If so, in what way?

Opinions : General

1. Population size is one of three factors that creates anthropogenic impact on the environment, the other two being consumption and technology. In your opinion, does population size relate to environmental sustainability?
2. In the survey results, numerous participants indicated that the population factor should be omitted because its relation to environmental impact isn't direct, and that the focus of interventions to address climate change and environmental degradation should be on consumption and technology. How do you react to this?

Probe (should interventions targeting population concerns come after consumption and technology factors have been addressed?)

3. Do you perceive population growth or size to be a threat to sustainability?
4. Family planning has a significant impact on fertility levels. For this reason, it is associated to the population growth/environmental sustainability linkage. Do you agree?

Probe: do you wish to address this issue more/less?

5. How comfortable do you feel when addressing the linkages between family planning, population growth, and environmental sustainability?

6. It is widely accepted that in order to slow or stop population growth interventions should focus on education and the eradication of poverty. In your opinion, how is family planning to population dynamics?

Opinions: Framing of reproductive rights

7. Environmental issues are increasingly present in international policy making. Do you think that this changes or will change the way in which we perceive global population size and access to reproductive rights?
8. Do you think that our understanding of the role and scope of reproductive rights is related to whether we perceive population growth to be a threat to sustainability?
9. Climate change and environmental degradation threaten to undermine 50 years of progress in global health. The risk of climate change tipping points and the vulnerability of certain population groups to climate change is well documented. The precautionary principle aims to stop or minimize harm before it occurs. In your opinion, could the precautionary principle be invoked to address population growth?
10. Because of its impact on population growth, access to family planning can be perceived as a pathway to environmental sustainability or as a climate change adaptation tool. How do you react to this statement?
11. How do you think that the positive impact of family planning on environmental sustainability may constitute an opportunity for the advancement of the reproductive rights field, if at all?
12. Reproductive rights may benefit from messaging that acknowledges their positive impact on environmental sustainability, as this may open new funding opportunities, increase legitimacy and widen its audience. Should we pursue this to advance reproductive rights?
13. In your opinion, is it possible to envisage a global population policy aiming to reduce fertility levels that would be respectful of human and reproductive rights? If not, can targeted interventions aimed at reducing fertility ever be acceptable?
14. Scholars have argued that the right to environment may be seen as “the primary, indeed irreducible, human right” (Collins, 2015). This would mean that the right to a livable environment supersedes all other rights. How do you react to this statement?
15. Should the ideological framework of reproductive rights, should be integrated within an overarching sustainability frame?

16. Do you have an opinion or insight on where these policy changes should be discussed, which entity should enact policies on this, and at which level?
17. "Reproductive rights ... rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing, and timing of their children,"
 - A. How do you interpret the qualifier "responsibly" in this statement?
 - B. Could it be read as requiring couples to take into account the adverse environmental externalities their reproductive decisions may give rise to?
18. The concept of planetary health is based on the idea that human health and the health of the planet are related. It views population numbers as one of the key factors triggering human induced environmental change and identifies the reduction of population growth as a solution to environmental problems. Do you perceive planetary health to be relevant for the reproductive rights field?
19. Which barriers might prevent the integration of the reproductive rights and environmental sustainability movements?
20. Is there anything else that you would like to share with me? Anything that you are surprised we didn't address?

Thank you for taking the time to do this interview!

21. Would you like to receive the results of this survey once they have been written into a report?

If you would like to make any additional comments on these issues, please contact me by email at @uottawa.ca

APPENDIX F: Consent Form



Université d'Ottawa

Faculté des sciences
de la santé

École interdisciplinaire
des sciences de la santé

University of Ottawa

Faculty of Health
Sciences

Interdisciplinary School
of Health Sciences

613-562-5800 ext 2316
613-562-5632

1 Stewart Street (312-B)
Ottawa ON K1N 6N5 Canada

www.uOttawa.ca

Consent Form

Study title: **Harnessing the positive impact of family planning on environmental sustainability: A qualitative research project**

Thank you for your interest in participating in our study dedicated to harnessing the positive impact of family planning on environmental sustainability. This study is a doctoral thesis project, being conducted by Céline Delacroix, under the supervision of Dr. Angel M. at the University of Ottawa. Dr. Foster is an Associate Professor in the Faculty of Health Sciences.

Purpose of the study: The objective of this study is to better understand how stakeholders perceive the relationship between family planning, population growth, and environmental sustainability, and to identify and develop a policy tool to strengthen reproductive rights.

Participation: This Skype/telephone interview will take approximately 40 minutes and will be conducted by Céline Delacroix. During that interview you will be asked a series of questions about your professional background and your perceptions of the linkages between family planning, population growth and environmental sustainability. We will take notes during the interview and with your permission we will audio record the interview as well. As this research project is participative in nature, I will also suggest that you provide input on the study documents (preliminary report, online survey report and draft interview guide) by adding your observations or comments. This process may take between 0 and 120 minutes, depending upon your desired level of involvement.

Assessment of risks: There are few risks associated with participation in this study. You do not have to answer any questions that you do not want to and you may end the interview at any time.

Benefits: There are few direct benefits associated with participation in this study. However, we hope that the findings from this project will play a role in strengthening sexual and reproductive health and rights.

Confidentiality: Your participation in this study is strictly confidential. Only members of the study team will have access to the materials related to this study. All documents and files, including the audio recording files, transcripts, interview notes, and consent forms, will be stored in locked filing cabinets and/or password protected computers. We will not use your name or any other personally identifiable information in any presentations or publications that result from this study. All quotations or excerpts from the interview used in presentations or publications will be masked and/or any identifying information will be removed.

Conservation of data: All electronic records will be stored on password protected computers. Study materials will be kept for five years after the conclusion of the study at which time all materials will be destroyed.

Compensation: There is no compensation for participating in the interview.

Voluntary participation: Participation in this study is completely voluntary. You are under no obligation to participate and if you choose to participate, you can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If you choose to withdraw, you will have the option of withdrawing all information that has been collected. If you choose to withdraw and consent for us to use the data collected up until the point of your withdrawal, all data gathered up until that point will be stored in the manner described previously.

If you have any questions about the study you may contact:

Angel M. Foster, DPhil, MD, AM
Project Supervisor
Phone: - -
Email: _____

Céline Delacroix, LLB, MSc, PhD(c)
Principal Investigator
Phone: - - -
Email: _____

This study has received ethics approval from the Research Ethics Board at the University of Ottawa (File #XXX). If you have any questions regarding the ethical conduct of this study, you may contact: Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall; 550 Cumberland Street, Room 154; Ottawa, ON K1N 6N5; Tel.: (613) 562-5387; Email: ethics@uottawa.ca

Acceptance: As this is a Skype/telephone interview, we will ask you to provide verbal consent. Your consent will be recorded on a copy of this form by the interviewer:

Do you agree to participate in research study as described in this form?

Yes _____ No _____

Do you give permission for the interview to be audio recorded? Please note that at any point during the interview you can ask the interviewer to turn off the recording device .

Yes _____ No _____

Do you give permission for quotations to be used from this interview in presentations, reports, and publications? Any identifying information will be removed or masked.

Yes _____ No _____

Name of interviewer:

Interview number:

Date of interview:

APPENDIX G: Poster Presentation

“Harnessing the positive impact of family planning on environmental sustainability to reduce the global unmet need for contraception”. International Conference on Sustainable Development (ICSD), September 18-20, 2018, Columbia University, New York.

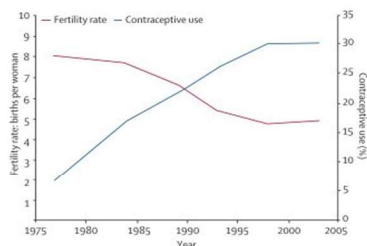
Harnessing the positive impact of family planning on environmental sustainability to reduce the global unmet need for contraception

Céline Delacroix, LLB, MSc, PhD (c)

Faculty of Health Sciences, University of Ottawa

BACKGROUND

- Reproductive rights include the right to reproductive self-determination, sexual and reproductive health services, information and education
- Over 225 million women have an unmet need for contraception, and over 20 million women perform unsafe abortions each year
- Reproductive rights and environmental sustainability have synergistic interests: access to family planning leads to lower fertility rates



Trends in total fertility rate and contraceptive use in married Kenyan women (Cleland et al., 2006)

- Slowing population growth could lead to substantial emissions reductions and play an important role to avoid dangerous climate change (O'Neill et al., 2010)
- The linkages between reproductive rights and environmental sustainability are downplayed by reproductive rights advocates as tying family planning to population growth is controversial
- Addressing population dynamics through the advancement of reproductive rights is increasingly perceived and recognized as a valid component of climate change adaptation and mitigation strategies, creating substantial programmatic opportunities for the advancement of reproductive health

OBJECTIVES

- Contribute to the body of knowledge surrounding population, environment, and health linkages
- Mobilize the reproductive health community around these issues
- Identify policy tools to use environmental sustainability as leverage to improve global reproductive rights, while maintaining a feminist vision of reproductive empowerment
- Increase the prominence of reproductive rights in the context of the SDGs, centered on a dominant "sustainability frame"

CONCLUSIONS

- The absence of population dynamics considerations in the 2030 Agenda for Sustainable Development may undermine its long-term goals

The SDGs constitute a window of opportunity for the advancement of reproductive rights and for the introduction of a renewed policy discourse on the linkages between population dynamics and sustainability:

- Increased emphasis on sexual and reproductive rights in Goals 3 : health and well being; and 5 : gender equality and empower all women and girls
- Adoption of a universal and rights based approach, taking a broad view of human development, with human rights at its centre.
- Focus on an overarching sustainability frame
- Goals and targets are integrated and indivisible, for better policy coherence



Social movement change

If it enlarges its action frame to include environmental sustainability, the reproductive rights movement has the opportunity to diversify its organizational structure by appealing to new audiences, as well as strengthen its social change message

National adaptation programmes of action (NAPAs)

NAPAs identify priority activities that respond to urgent and immediate needs to adapt to climate change for least developed countries. They do not prioritize funding for family planning or reproductive health despite population growth being identified as a key component of vulnerability to climate change impacts in a majority of these instruments (Mutunga & Hardee, 2010) .

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- Mutunga, C., & Hardee, K. (2010). Population and reproductive health in National Adaptation Programmes of Action (NAPAs) for climate change in Africa. *African Journal of Reproductive Health* 14(4 Spec no.), 127-39.
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APPENDIX H: Oral Presentations

“Harnessing the Positive Impact of Family Planning on Environmental Sustainability: A Qualitative Research Project to Reduce the Unmet Contraceptive Need”. School of Epidemiology and Public Health Research Day, March 10, 2017

“Contextualizing the Integration of the Reproductive Rights and Environmental Sustainability Movements: Linking Population Dynamics, Health Equity and Climate Change Adaptation”. The International Sustainability Transitions Conference 2019, Carleton University, June 23-26, 2019

“Significance of integrating reproductive rights and environmental sustainability/climate action policies and movements”. International Conference on Public Policy, Montreal, 26-28 June 2019.

Upcoming: "Stakeholders' Perceptions of the Linkage between Reproductive Rights and Environmental Sustainability". International Conference on Sustainable Development (ICSD) September 20-21, 2021, Columbia University, New York, USA.

Upcoming: “Empowered, Smaller Families Are Better For The Planet: How To Talk About Family Planning And Environmental Sustainability” at the Fourteenth International Conference on Climate Change: Impacts & Responses, April 7-8, 2022, The University of British Columbia, Vancouver, Canada.

APPENDIX I: FP/Earth Press Release Launch

DOES RIGHTS-BASED FAMILY PLANNING REALLY MATTER TO ENVIRONMENTAL SUSTAINABILITY? A REBORN PROJECT AND NEW DIRECTOR EXPLORE THE EVIDENCE AT THE POPULATION INSTITUTE

June 29, 2021

Striving to improve the well-being of both people and the planet, the Population Institute (PI) is launching a new effort to understand a critical connection: how family planning relates to prospects for environmental sustainability.

Under PI auspices, the FP/Earth project will explore the scientific case that removing barriers to the use of contraception and helping to realize people's right to reproductive health worldwide can supplement and enhance efforts to slow climate change, ease human pressure on the natural world, and improve food security and health. Directed by Céline Delacroix of the University of Ottawa, the project renames and continues the work of the Family Planning and Environmental Sustainability Assessment (FPESA), sponsored by the Worldwatch Institute from 2013 to 2016.

Over three years, the FPESA project engaged a network of research assessors from around the world to assess peer-reviewed scientific articles relating to the family planning-environment linkage. The project's 165-page report, published in 2016, concluded that scientists generally considered the size and growth of human population as important factors in climate change and environmental degradation.

But few scientists probed the linkage carefully, much less considered the potential for population growth to slow as a side benefit to improved access to reproductive health services and increased use of family planning. One exception, the project found, was that many researchers based in sub-Saharan Africa called for improved family planning services to contribute to more sustainable and secure food production in their region.

Under the direction of Ms. Delacroix, FP/Earth will build on the work of the FPESA project, continuing the assessment of journal articles. It will also encourage more scientific work on the linkage by developing and keeping informed a network of interested researchers. The reborn project will also engage in advocacy on behalf of rights-based family planning, while working to highlight how reproductive freedom can aid in achieving environmental sustainability.

The basic message relayed by the FP/Earth project is one espoused by many in the broader movement for sexual and reproductive health and rights: Fulfilling reproductive rights by empowering each person to choose the number, timing, and spacing of their offspring has a positive impact on the health and well-being of people. When people have control over their reproductive health and well-being, this, in turn, can have a positive impact on environmental sustainability. Removing existing barriers to family planning can help fulfil people's

reproductive rights, while also slowing population growth. As scientific findings have demonstrated, slower growth can both help ease human pressure on the climate and environment and facilitate resilience to environmental and climate change already occurring.

“Acknowledging and harnessing these connections has the potential to strengthen reproductive freedom as well as the chances for future generations to live in a sustainable environment,” says Céline Delacroix, FP/Earth Project Director.

The FPESA project engaged the collaboration of 25 researchers from around the world, roughly evenly divided by women and men and representatives of low, middle, and high-income countries. Robert Engelman, former president of the Worldwatch Institute and now a Senior Fellow at the Population Institute, founded and directed the FPESA project and will serve as an adviser to the new phase of the project.

“How the use of family planning influences environmental sustainability is among the most important but rarely asked questions society faces,” Engelman said. “I’m delighted and grateful to the Population Institute for sponsoring Céline Delacroix to direct this new phase of a project probing and educating on the linkage. Céline’s deep experience and talent will bring the project to a broader community and into a new era, in which it is needed more than ever.”

FP/Earth will pursue its work as a project of the Population Institute under the overall guidance of Kathleen Mogelgaard, who assumed the presidency of the Institute in May.

“The Population Institute seeks to improve the health and well-being of people and the planet by supporting policies and programs that promote sexual and reproductive health and rights,” said Mogelgaard. “We are thrilled to support Céline and the work of FP/Earth in shedding light on the ways in which the realization of rights for people everywhere contributes to sustainability.”

www.fpearth.org

Contact

Céline Delacroix

Director, FP/Earth Project

APPENDIX J: A plea to Acknowledge the Population Factor

Published on June 30 2021 in The Hill Times <https://www.hilltimes.com/2021/06/30/a-plea-to-acknowledge-the-population-factor/303828>

It is estimated that nearly half of pregnancies around the world are [unintended](#) (Bearak et al., 2020). It is also estimated that slowing population growth [could help reduce](#) the emissions of greenhouse gas responsible for climate change and reduce overall pressure on the environment (Bongaarts & O'Neill, 2018). So, empowering all to decide the number, spacing and timing of their children would not only fulfill an internationally recognized reproductive right, but would also help human beings achieve a better balance with the environment.

But talking about the relation between population size, reproductive rights and environmental sustainability is dangerous territory that few dare approach. There are many ways to avoid or reject the population conversation: Some accept that population reduction would be a benefit in and of itself, but suggest [avoiding a contentious message](#) that touches on sexuality, patriarchy, global cultural differences, and religion (Roberts, 2017). Others claim that exploring the role that population size plays for environmental sustainability is a “[dangerous distraction](#)” from the “real” drivers of climate change, such as capitalism, consumption, and global inequities (Alberro, 2020). And, again, others associate the population size, family planning and environmental sustainability linkage as one inexorably leading to [racism and coercive practices](#) performed to limit fertility (Hendrixson et al., 2020). Many scientists and policy makers thus avoid this issue altogether, and, in the ensuing silence, global citizens are deprived of an opportunity to reflect on the long-term sustainability consequences of their reproductive choices.

This reluctance to acknowledge the population factor takes place despite growing scientific evidence demonstrating the role that population size plays for sustainability (Wynes & Nicholas, 2017a), and increasing public concern for the environment (Corner et al., 2020). The population question is thus bound to surface, as it is a fact: population size is one of the variables that generates environmental impact.

If left unaddressed, this problematic also risks to become appropriated by groups who may not see that slowing population growth and improving environmental sustainability meet with the realization of reproductive rights for all people. Last April, for example, Mark Brnovich, Arizona’s attorney general, filed [a lawsuit](#) claiming that Biden’s reversal of Donald Trump’s immigration policies allowed thousands of additional migrants to settle in Arizona, leading to significant environmental impacts (Arizona Attorney General, 2021). Framing environmental degradation in this way is unjust, and allows those with racist or nationalistic agendas to blame environmental destruction on groups with high fertility.

It is urgent to find a way to address this issue in a fair, balanced, and compassionate way. The size of the global population matters for the sustainability of the planet.

APPENDIX K: Earth Overshoot Day Voices Contribution

<https://www.overshootday.org/celine-delacroix-population/>

My name is Céline Delacroix, I am a PhD Candidate in Population Health and Scientific Director of the Family Planning and Environmental Sustainability Assessment Project (FPESA). I became passionate about the need to reflect on the balance between population size and environmental impact when I realized that addressing this issue could promote environmental sustainability whilst simultaneously advance reproductive rights. In practice, advancing reproductive rights means helping everyone fulfill their basic right to decide the number and spacing of their children, and have the information, education and means to do so. But how do environmental impact and reproductive rights intersect? Quite simply, actually: Research shows that when we have access to modern methods of contraception and learn about reproduction, we have less children. In turn, slowing population growth significantly reduces human environmental impact.

But solutions are never simple: talking about the linkage between family planning and environmental sustainability is a delicate matter, and population size is only one of many factors that contributes to sustainability. More work needs to be done for the family planning, population size and environmental sustainability linkage to become a more accepted and less divisive issue. This is what I focus on at FPESA and in my PhD research. I look for the right language and framing to address this linkage. For example, many scholars still refer to the need for “population control” to reduce environmental impacts. This term evokes past coercive and racist practices and triggers immediate rejection and hostility.

There are many other ways to frame this issue, including as a win-win situation for reproductive rights and environmental sustainability. As part of my PhD research, I interviewed stakeholders of the reproductive rights and environmental movements to better understand how they perceived the family planning, population size and environmental sustainability linkage. A large majority of these stakeholders wished to integrate the reproductive rights ideological framework in a wider sustainability frame reflecting environmental considerations. But results also showed that this linkage remained extremely controversial and polarizing, and that we were still far to reach a consensus on its framing.

With the FPESA project, I also collect evidence on how reproductive rights and environmental sustainability are related, as well as on how population size impacts the latter. I aim to create a network of researchers, activists and policy makers who work on this linkage to encourage communication and the identification of best practices.

It is exciting to know that we have a window of opportunity to improve reproductive rights and environmental sustainability ahead of us.

– Céline Delacroix