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Fertility Has Been Framed: Why Family Planning Is Not a Silver Bullet for Sustainable Development

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Abstract

High fertility and population growth have been framed as villains in global health and development. Inspired by neo-Malthusian concerns around resource depletion, scholars have argued that fertility reduction through increased contraceptive use is necessary to protect maternal health, prevent environmental disaster, and promote economic prosperity throughout the Global South. Despite substantial critique from feminist and anti-colonial scholars, the scientific evidence behind these arguments has often been treated as established fact. This ostensible scientific consensus on the instrumental benefits of contraceptive use has been marshalled by the global family planning establishment in the wake of the 1994 International Conference on Population and Development to justify continued efforts to maximize contraceptive uptake in the Global South. Here, we critically examine the evidence linking high fertility to adverse maternal health, environmental, and economic outcomes and evaluate whether reducing fertility through increased contraceptive use offers an effective strategy to address these challenges. We find the state of the evidence weaker and more conflicted than commonly acknowledged, with many claims relying on small effect sizes and/or unjustified assumptions. While increasing contraceptive uptake and reducing fertility may offer limited, marginal advantages, we argue that family planning cannot effectively address the multidimensional challenges of global poverty, ill health, and environmental degradation. Instead, global health and development should address root causes of these phenomena, while family planning programs must radically refocus on reproductive autonomy.

Keywords Family planning · Fertility · Sustainable development · Population dynamics · Reproductive rights · Maternal health · Environmental protection · Economic growth

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Introduction

High fertility has been charged with a slew of offenses against global health and development. Accused of slowing economic progress, contributing to growing ecological disaster, and worsening women's[1] health, both scholars and activists have singled out high fertility as a top priority for global intervention (Jensen and Creinin 2020; Anderson 2019; Cleland et al. 2011). To address the social, economic, ecological, and health ills attributed to high fertility, many thinkers have cast increased contraceptive uptake as an essential solution, capable not only of slowing population growth but also of promoting a range of other social goods (Habumuremyi and Zenawi 2012). In much of global family planning (as well as the broader global health and development) discourse, these claims are treated as established scientific fact, with the strength of their evidence rarely questioned. In the aftermath of the 1994 International Conference on Population and Development in Cairo, claims of such widespread benefits have been used to justify a continued push to maximize contraceptive uptake in the Global South.

In this paper, we critically review mainstream health, demography, economics, and other scientific literature to examine the strength of the evidence (and the underlying assumptions) behind the framing of high fertility in the Global South as a key barrier to global health and development and the construction of family planning as the solution to this barrier. Focusing on the three categories of (1) maternal health, (2) environmental protection, and (3) poverty alleviation, we find that much of the discourse framing contraception as a solution for these woes overstates the strength of an evidence base that is often weak, conflicting, ambiguous, and/or based on unjustified assumptions. We conclude that the literature framing contraceptive use (and subsequent fertility reduction) as a silver bullet solution for sustainable development serves as an important distraction from the root causes of global reproductive health inequities.

Background on Instrumentalist Family Planning

For decades, family planning advocates, economists, demographers of fertility, and other thinkers have portrayed population growth as an existential global threat. In 1969, US President Richard Nixon called population growth "One of the most serious challenges to human destiny" and warned that fledgling postcolonial economies were "struggling under a handicap of intense population increase" (Nixon 1969). Similar concerns have been more recently echoed by French President Emmanuel Macron, who responded to a question about development initiatives in Africa by stating,

[1] We note here that we specifically discuss maternal and women's outcomes, as this type of gendered language is most common in the literature we reference, with little data collected on trans, non-binary, or gender non-conforming populations. We affirm that trans, non-binary, and gender non-conforming people also get pregnant, need reproductive health care, and are disproportionately targeted for fertility control. We enthusiastically affirm the importance of future work on this topic.

> The challenge of Africa is completely different, it is much deeper… it is civilizational… [When] countries still have seven to eight children per woman, you can decide to spend billions of euros, you will not stabilize anything.
>
> (quoted in DeCourcey 2017, 2)

These concerns are voiced not just by world leaders, but by scholars who have argued that fertility reduction is a "necessary condition for economic growth and development" (Sinding 2009, 3028). Proposing fertility reduction as a policy solution to a diverse array of global challenges, these thinkers have framed contraception as "pivotal," and argued that "[t]he role of family planning in poverty reduction" and other beneficial outcomes "cannot be overstated" (Allen 2007, 999).

The idea undergirding these programs—that human fertility is too high and population growth too rapid in the Global South—has a long history in the global health and development fields. Scholars often trace concern around high fertility and population growth as threats to human well-being to Thomas Malthus, who was among the first in the Western canon to argue that population growth would have negative consequences for human well-being. In his 1798 *Essay on the Principle of Population*, Malthus wrote that unchecked fertility would provoke "sickly seasons, epidemics, pestilence, and plague [to] advance in terrific array" followed by "gigantic inevitable famine" as a way to "sweep off their thousands and tens of thousands" (Malthus 1798, 54).

Malthus' original concerns focused on food production, starvation, and disease, but over time, neo-Malthusian thought has expanded to include the adverse effects of population growth on everything from soil erosion to climate change. In 2016, for example, demographer John Bongaarts wrote that "Rapid population growth, with attendant consumption and waste, has pervasive adverse effects on societies and the world's ecosystems," citing political unrest, dilapidated public infrastructure, and low wages as just a few of the consequences of high fertility and population growth (Bongaarts 2016, 409–10). A persistent focus of these neo-Malthusian concerns has been on the Global South generally and on "sub-Saharan Africa" in particular, where fertility rates are the highest in the world. In 2020, Liu and Raftery summed up this line of thinking, writing,

> It is widely thought that these countries [in sub-Saharan Africa] would benefit from a slower population increase brought about by a more rapid decrease in fertility, as high fertility and rapid population growth are likely to have adverse economic, environmental, health, governmental, and political consequences… This raises the question of how the fertility decline could be accelerated in high-fertility countries.
>
> (Liu and Raftery 2020, 409–10)

Framing high fertility as such a broad-reaching problem has resulted in a corresponding understanding of family planning programs as an equally broad-reaching solution—an almost miraculous cure for a long and growing list of global problems.

In a 2016 piece entitled "Investing in Family Planning: Key to Achieving the Sustainable Development Goals," for example, the authors wrote, "Investing in family planning is a development 'best buy' that can accelerate achievement across

the Sustainable Development Goal themes: People, Planet, Prosperity, Peace, and Partnership" (Starbird et al. 2016, 191). That text explored 19 different ways that increased contraceptive use could aid in the achievement of the Sustainable Development Goals, including claims that family planning "helps to protect declining marine resources," "helps reduce population effects on food and chemical waste," "contributes to economic growth," and "saves lives" (Starbird et al. 2016, 204).

Here, we describe these claims that increased modern contraceptive use can serve as a sort of silver bullet for the Sustainable Development era as "instrumentalist arguments," since they utilize women's bodies and reproductive capacities as an instrument to achieve desired broader social, environmental, and economic changes. The substance of these instrumentalist arguments is expansive and can vary widely. However, instrumentalist arguments for contraception often fall into one of three broad categories: Contraceptive use leads to lower parity/fertility, which in turn (1) promotes maternal health, (2) protects the environment, and (3) stimulates economic prosperity and development (Potts 2000; Starbird et al. 2016; United Nations Department of Economic and Social Affairs 2019; Bongaarts 2016).

Instrumentalist Compromises at Cairo

The enduring salience of instrumentalist approaches to family planning today sits, paradoxically, both in tension with and squarely within the parameters of the 1994 ICPD Programme of Action (PoA). The ICPD is widely considered a "watershed" event in the trajectory of global family planning, credited with ending the "population era" and ushering a new era of reproductive health and rights (Greer 2006, 1565; Langer 2006, 1552). Yet despite this reputation as a "high-water mark" in international reproductive health policy (Newman et al. 2014, 56), the ICPD PoA included considerable compromises from feminists (UNFPA 1994; Petchesky 1995).

The tensions and compromises baked into the ICPD PoA result from an alliance between so-called strange bedmates that was forged at the conference (Hodgson and Watkins 1996). Overcoming a previously antagonistic relationship, feminist coalitions and neo-Malthusians came together at Cairo over a shared dedication to increasing contraceptive access worldwide (Ashford 2014). Both camps supported expanding family planning programs, but their motivations for doing so diverged considerably. By allying with feminists at the ICPD, "neo-Malthusians gained the advantage of a frame for their ultimate goal (reduced fertility) expressed in the more politically correct form of women's rights and wellbeing" while feminists gained institutional clout and considerably more resources for their programs (Robinson, 2010). But rather than foregrounding feminists' human rights concerns and "signall[ing] the end of the so-called population era" as commonly argued, the Programme of Action adopted at the ICPD contained a range of compromises and contradictory messages resulting from attempts to reconcile incongruent feminist and neo-Malthusian ideologies into a single coherent approach to family planning.

One of the most notable of these contradictions is the PoA's affirmation of the legitimacy of instrumentalist arguments for family planning, even as the document asserts the overarching primacy of reproductive rights and self-determination. The PoA, for

example, describes demographic goals as "legitimately the subject of government development strategies" but cautions that they "should not be imposed on family-planning providers in the form of targets or quotas for the recruitment of clients" (UNFPA 1994, 43). By condemning the use of coercion to reach contraceptive targets while simultaneously endorsing instrumentalist approaches, the Cairo consensus paved the way for family planning programs to continue to use contraception to pursue external goals, as long as that contraceptive use is *voluntary* (UNFPA 1994, 45).

This notion of voluntarism has proven to be a linchpin of post-ICPD compromise. By arguing that there is a large "unmet need for contraception" that can be met through increases in voluntary family planning, the post-ICPD family planning coalition has attempted to elide any tensions between reproductive rights and freedom on the one hand, and achieving external, instrumental goals through contraceptive uptake on the other (Senderowicz and Maloney 2022; Peterson et al. 2013; Brown et al. 2014). Meeting this "unmet need" through voluntary contraceptive uptake allows family planning to be framed as promoting women's rights and empowerment while simultaneously pursuing external goals. In this way, the ICPD PoA paved the way for a broad coalition to frame instrumental approaches to family planning as a "win-win," with benefits for feminism along with global health and development.

The success these efforts have had at glossing over the inherent tensions between instrumentalist approaches to family planning and reproductive self-determination is due in large part to their emphasis on the principle of "voluntarism." Voluntarism is a crucial element of person-centered family planning, but in the post-ICPD era simplistic, unverified affirmations of voluntarism have proliferated throughout the global family planning field, almost as if pronouncing the word "voluntary" before each utterance of "family planning" would be enough to make it so. In her piece asking *What's so troubling about 'voluntary' family planning anyway?*, Nandagiri (2021) troubles the notion of voluntarism by linking the concept to unequal social and structural conditions that limit the exercise of free choice even in the absence of overt coercion. Nandagiri and many others have demonstrated how even family planning programs based on strongly stated (and even strongly held) principles of voluntariness can end up incentivizing contraceptive coercion (Hendrixson 2018; Senderowicz 2019; Nandagiri 2021; Towriss and Rucell 2019).

Critiques of Instrumentalism

Given how they relate to contraceptive coercion, the eugenics movement, and related efforts to control who reproduces and under what circumstances, many thinkers have found instrumentalist arguments for family planning to be problematic on their face. Feminist, anticolonial, and reproductive justice[2] scholars have argued for decades

[2] An activist movement founded and led by Black women in the USA; reproductive justice is defined as "the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities" (SisterSong 2014). Reproductive justice defines ideal reproductive futures beyond the biomedical understandings of contraception and choice, arguing that true reproductive well-being requires addressing intersectional social, economic, and political injustices (Luna and Luker 2013; Ross et al. 2017).

that women's bodies are not control knobs to be twisted and turned to engineer desired social outcomes (Hartmann 2018; Corrêa 1994; Hendrixson and Hartmann 2019; Murphy 2017; Ross et al. 2017; Sasser 2018). Critical analyses of population control have shown how racialized, gendered, and colonial logics determine whose bodies get targeted for fertility control, stratifying reproduction across axes of social exclusion, including race, ethnicity, geography, and coloniality (Colen 1995; Morgan and Roberts 2012; Roberts 1997; Takeshita 2012; Kuumba 1993; Kuumba 1999; Suh 2019; Murphy 2017).

Instrumentalizing family planning—using it as a means to an end—can lead to contraceptive coercion and to a broader subordination of reproductive freedom to the goals of fertility reduction (Hartmann 1997; Connelly 2008). A growing body of literature has found that contraceptive coercion exists not only in the outmoded population control programs of yore but also in mainstream, contemporary family planning programs that emphasize the post-ICPD rhetoric of voluntarism as well (Senderowicz 2019; Towriss et al. 2019; Senderowicz and Kolenda 2022; Yirgu et al. 2020; Britton et al. 2021; Nandagiri 2021).

A cadre of feminist scholars has questioned both the ethics of these instrumentalist approaches, as well as the methodological assumptions that undergird them. Feminist social scientists have critiqued the construct of objectivity in science quite generally, arguing that this notion is based on a false universal standard that reflects the gendered and racialized values of the dominant culture (Haraway 1988; Harding 1986; Merry 2016). Anthropologist Susan Greenhalgh has also more specifically critiqued many of the assumptions upon which demographic research on population growth relies. Greenhalgh cites an overemphasis on limited quantitative data at the expense of a richer understanding of people's complex lives and a lack of attention to historical and contextual factors that shape contemporary demographic processes as weaknesses that skew research on fertility and the instrumental arguments it begat (Greenhalgh 1990, 1996). Historians of science and medicine have explored how the intellectual history of the field of demography—intertwined with the eugenics movement, colonialism, and other white supremacist, misogynist ideologies—informed the field's fixation on population growth as a problem and its fixation on targeting "solutions" to high fertility onto the bodies of women in the Global South (Ramsden 2003; Connelly 2008; Merchant 2021).

Enduring Instrumentalism in the Post-ICPD World

Despite long-standing objections about the harms of motivating family planning programs with instrumentalist arguments, many scholars and decision-makers continue to implicate high fertility in a growing compendium of global challenges and to frame contraception as the solution. Decades after the ICPD, many of the arguments that motivate family planning programs today still fail to engage meaningfully with the feminist and anticolonial critiques of their approach. Even as critical scholars explore the ethical dimensions of these instrumentalist arguments and feminist social scientists critique the methodologies underpinning them, the basic scientific

validity of the arguments that undergird them has often been taken as established fact in global health and development. Rather than adding to the debate whether instrumentalist arguments for family planning are right or whether the ends could justify the means, here, we seek to evaluate the strength of the evidence suggesting that instrumentalist approaches to family planning could be effective at achieving their ends.

In this piece, we critically explore several streams of evidence that scholars have used since the ICPD to argue that high fertility is an important cause of global ills, and we evaluate the extent to which increased contraceptive use represents a viable solution to these ills. Importantly, we do not seek to perform a systematic review of the vast literature—across the fields of medicine, public health, ecology, gender studies, development economics, and more—or document and synthesize all available evidence on these topics. Instead, we seek to perform a critical review of diverse literature from across these fields (Grant and Booth 2009). Through this critical approach, we interrogate some of the (often unstated) assumptions upon which instrumentalist claims rely, assess the scientific strength of some key claims, and engage with pieces of evidence often left out of conventional narratives on fertility and family planning in the post-ICPD global health and development literatures. Through this critical review, we seek to illuminate ways that the logic and fundamental claims underlying instrumentalist arguments maintain power as part of the post-ICPD global reproductive health landscape.

Fertility and Maternal Health

The importance of contraceptive use and lowered fertility for maternal health is one of the primary instrumentalist rationales offered for expanding family planning throughout global health and development programs in the Global South. Scholars and programs, for example, cite high fertility and low contraceptive prevalence as key contributors to Africa's persistently levels of high maternal mortality (Shah and Say 2007; Tesema et al. 2022). Public health scholars and demographers mostly discuss the strength of the links between high fertility and poor maternal health as settled scientific fact. A 2010 paper in the *Maternal and Child Health Journal*, for instance, had the title "How increased contraceptive use has reduced maternal mortality" (Stover and Ross 2010). These scientific claims, in turn, inform wide-reaching family planning advocacy efforts, with global health NGOs routinely claiming that "promoting the use of contraception is essential" to reducing maternal deaths and improving maternal health (Wilson Center 2013; Save the Children 2022; Maternal Health Task Force 2022).

In advance of the 2012 London Summit on Family Planning, *The Lancet* ran a special series on family planning that included a much-cited review of the literature on contraception and health. The authors argued that contraception and resulting reduced fertility can protect maternal health through five main pathways. The first four of these pathways involve reducing the risk of death per pregnancy by preventing high-risk pregnancies, while the fifth involves reducing

women's lifetime exposure to pregnancy to begin with. The types of higher risk pregnancies forestalled by contraception according to these authors include (1) pregnancies early or late in the reproductive life course, (2) pregnancies that end in an unsafe abortion, (3) pregnancies closely spaced to one another, and (4) higher parity pregnancies.

A landmark analysis by Ahmed et al. in that same special series modeled the reduction in maternal mortality that could come from contraceptive use, including "by modification of the excessive hazards associated with pregnancies that are 'too early, too late, too many, or too frequent'" (Ahmed et al. 2012, 111). These mechanisms for improving maternal health through contraceptive uptake are asserted in this literature with few caveats or qualifications. Our critical review, in contrast, finds that such unequivocal claims are unwarranted, as the evidence supporting several of these mechanisms is more mixed than commonly acknowledged.

Earlier and Later Pregnancies

Prevention of pregnancies at earlier stages of the reproductive life course (typically during adolescence) is one important mechanism through which family planning scholars theorize contraception can lower fertility and bring about a reduction in adverse maternal health outcomes (Rossiter et al. 1985; World Health Organization 2020). Concerns about the elevated risks of childbirth at young ages are used to justify efforts to reduce pregnancies among all adolescents, overlooking important epidemiological differences between the risks of pregnancy in younger girls (10–15 years old) and older adolescents (16–19 years old).

Evidence suggests that concerns about increased risk of death in pregnancy are far more justified in this younger age group. A 2014 study of data from 144 countries found that the maternal mortality ratio was slightly higher among 15–19 years old than among 20–24 years old, but otherwise lower than at any other time in the reproductive life course, leading the authors to conclude: "For most countries, the risk of maternal mortality for adolescents is no greater than for women older than 30 years, and compared with women aged 35 years and older the risk is substantially lower for adolescents" (Nove et al. 2014, e612). Another large study of maternal outcomes in Latin America found that older adolescents 16–19 years old experienced similar rates (4.0 deaths/10,000 women) compared to women aged 20–24 (who experienced 4.1 deaths/10,000 women), while those 15 and younger experienced mortality rates more than four and a half times as high (18.5 deaths per 10,000 women) (Conde-Agudelo et al. 2005).

Yet, while scholars document increased risk of maternal death exclusively among younger girls and not older adolescents, exceedingly few pregnancies occur among girls in this youngest age group relative to all pregnancies among young people that take place every year. According to the WHO, 0.4% of the 190 million pregnancies per year in the developing world take place among girls younger than 15 years old (World Health Organization 2020). Preventing unwanted pregnancies among young girls is an important public health goal, but there is little evidence to support claims that contraception's effects on preventing pregnancies and reducing fertility among

older adolescents (where pregnancy is considerably more common) are a viable strategy to move the needle on maternal morbidity and mortality in the Global South.

A brief counterexample may help illustrate how family planning programs selectively employ the epidemiologic data on age and maternal health. Though little evidence has shown pregnancy during the teen years to contribute significantly to maternal death risk, substantial evidence has demonstrated increased maternal mortality risk at the other end of the reproductive life course. Pregnancies in women over 35 years old carry the highest risks of complications of any age group (Nove et al. 2014). In addition to an increased risk of death, pregnant women over the age of 35 are more likely to develop gestational diabetes, high blood pressure, placenta previa, and need for caesarian section than their younger counterparts (Mayo Clinic 2021). Yet the family planning community's approach toward later pregnancies (especially in wealthier countries, where they are increasingly common) has not been to discourage them, but rather, to ensure they are met with appropriate obstetric care. In the USA, for example, the contraceptive prevalence is 65.3% and the total fertility rate is 1.64, and nearly one-fifth of pregnancies occur at maternal age over 35, a proportion that continues to grow (Daniels and Abma 2020; Bornstein et al. 2020; Hamilton et al. 2021). Rather than seeking to prevent people over 35 from bearing children in this context, however, the health system has instead sought to provide appropriate care for these pregnancies, including widespread access to prenatal care and emergency obstetric services.

Unsafe Abortion

Scholars have also posited that contraception improves maternal health outcomes through reducing morbidity and mortality associated with unsafe abortion. Induced abortion is widely accepted as "one of the safest procedures in contemporary medical practice" (Grimes et al. 2006, 1). The case fatality rate for abortion in the USA, in the early 2010s, for example, was less than one death per 100,000 procedures, making the procedure less deadly than running a marathon or undergoing routine dental work (Raymond et al. 2014). Induced abortions become unsafe and contribute to adverse maternal health outcomes not through properties intrinsic to abortion procedures, but rather via the sociopolitical context in which they take place. While the case fatality rate for abortion in the USA (prior to the 2022 overturn of a federal right to abortion) was so small as to be nearly undetectable, in West Africa, the rate is 540/100,000 abortions (Department of Reproductive Health and Research; World Health Organization 2012).

In virtually every context where abortion safety has been studied, high risk for morbidity and mortality follows poverty, rurality, minoritized racial/ethnic background, young age, and other axes of marginalization (Bell et al. 2020; Boah et al. 2019; Senderowicz et al. 2018). A study on social determinants of unsafe abortion in Mexico, for example, concluded that "There is a steep socio-economic gradient in the probability of having an unsafe abortion," with poorer women, women with less education, and women with Indigenous ancestry more likely to have unsafe abortions

(Sousa et al. 2010, 300). The authors found "marked geographic disparities" across Mexico's states, with poorer states shouldering a higher burden of unsafe abortion (Sousa et al. 2010, 300). This body of evidence shows that the danger of abortion is not biological fact. Rather, abortion is rendered dangerous when restricted by policy, stigmatized by culture, and made inaccessible by social exclusion.

The safety of abortion when conducted by advanced medical providers in clinical environments has been clear for decades. But in recent years, a revolution in medication abortion has been increasing the safety of self-managed abortions as well (Grimes et al. 2006). Medication abortion (misoprostol alone, or misoprostol with mifepristone) is a highly effective medical regimen for abortion that pregnant people can safely take during the first 70 days of gestation, in the privacy of their own homes (ACOG Committee on Practice, Society of Family Planning et al. 2020). Although access to clinical services is recommended in case of complications, many studies have shown self-managed medication abortion to be largely safe and effective (Gambir et al. 2020).

Whereas previously, any abortion performed outside of a clinical environment was considered unsafe, in 2014, the WHO modified its abortion safety classifications to reflect the changes to abortion safety from the growing use of self-managed abortions with pills (Ganatra et al. 2014). This change acknowledged a spectrum of abortion safety in which self-managed medication abortions are viable options for safe termination of pregnancy (Ganatra et al. 2017). The WHO estimated 68,000 lives were lost to unsafe abortion in 2006, but just 11 years later in 2017, this estimate decreased by over two-thirds, to 22,800 deaths (Grimes et al. 2006; Singh et al. 2018). Globally, emergency clinicians have noted the sharp decrease in need of emergency obstetric treatment for unsafe abortions (Miller et al. 2005; Singh et al. 2012).

Better access to contraception for those who want it may indeed lead to fewer unintended pregnancies and fewer abortions. However, the crucial need for safe abortion services persists even when contraceptive uptake is high and total fertility is low. Contraceptive failure, non-consensual sex, and a myriad of other reasons contribute to the ongoing need for universal, comprehensive abortion care even when fertility rates are low. Argentina, for example, recently became the largest Latin American country to legalize abortion (Booth 2021). Pressure for this legal change built for years because, despite a contraceptive prevalence rate of 81.3% and a total fertility rate of 2.2, the country still ranked 82nd in the world for maternal deaths, with a maternal mortality ratio of 39 deaths per 100,000 live births, of which 18% were abortion related (World Health Organization, UNICEF, UNFPA, World Bank, and UN Population Division 2013; Kioko and Meana 2019; World Bank n.d). Mexico City legalized abortion in 2007 and Despite the law's restriction to abortion services within the capital city's limits, scholars estimate that this law decreased the entire nation of Mexico's maternal deaths between 2007 and 2011 by 8.8% (Clarke and Mühlrad 2016). These regional examples, among many others, show that high contraceptive uptake and low fertility cannot effectively address the consequences of unsafe abortion on maternal health. Rather, these examples show that the only solution to unsafe abortion is safe abortion.

Birth Spacing

A third mechanism by which family planning scholars claim that contraception and reduced fertility protect maternal health is through birth spacing—the lengthening of interpregnancy intervals. Papers promoting contraceptive programming use oft-repeated claims about the importance of birth spacing for maternal health, for example, claiming that "Assisting women in achieving recommended interpregnancy intervals is a significant maternal-child health concern" (Sridhar and Salcedo 2017, 1). Evidence to support these assertions, however, is considerably more mixed than commonly acknowledged. The WHO technical consultation on birth spacifng "noted that there is relatively little evidence available about the relationship between maternal mortality and birth-spacing intervals;" moreover, "for maternal morbidity, very long intervals were associated with more adverse effects than very short intervals" (World Health Organization 2005, 9). A 2007 systematic review on birth spacing and maternal health largely confirmed these findings, showing strong evidence for the danger of interpregnancy intervals greater than 5 years, but little evidence that short intervals are dangerous (Conde-Agudelo et al. 2007). Though the authors found short intervals associated with some uteroplacental bleeding disorders and increased risks associated with vaginal birth after cesarean delivery, they found no strong evidence of an impact of short intervals on postpartum hemorrhage, anemia, gestational diabetes, premature rupture of membranes, or overall maternal death.

Pointing to the abundance of confounding factors in trying to evaluate the causal link between interpregnancy intervals and maternal outcomes, a 2014 study in the *British Medical Journal* used a retrospective matching design and found that even extremely short interpregnancy intervals (less than 6 months) were not significantly associated with adverse maternal health outcomes (Ball et al. 2014). More recently, a 16-year population-based study from California found interpregnancy intervals of less than 6 months did not increase the risk of severe maternal morbidity compared to intervals of 18–23 months. Instead, this research concluded that longer intervals (24 months and greater) carried an increased risk of adverse outcomes (Liu et al. 2021).

Despite a lack of clear evidence of a maternal health benefit from interpregnancy intervals of even less than 6 months, family planning scholars routinely cite the need to attain interpregnancy intervals of 24 months (Ahmed et al. 2015), or sometimes even longer (Rizvi and Ahmad 2011), in order to promote maternal health and reduce maternal mortality. Recent qualitative work suggests that providers are heeding this call to use contraception as a tool to lengthen interpregnancy intervals, advising women to wait as long as 5 years after giving birth before having another child. This work also finds providers using spurious claims of medical benefits to compel women to use a contraceptive method they do not want (Senderowicz 2019). While there are certainly some studies that show a benefit for maternal health of avoiding extremely short birth intervals, the strength and conclusiveness of this evidence have been considerably overstated in these calls to use family planning as a solution.

High Parity

High parity (also known as grand multiparity, defined as five or more births at 20 or more weeks of gestation) has long been considered a risk factor for maternal morbidity and mortality (Stover and Ross 2010). And indeed, many studies provide evidence that higher parity is associated with increased maternal morbidity and death. A 2010 study by Shechter et al. (2010, S54) among Israeli women, for example, found a "significant linear association …between parity and adverse maternal and perinatal outcomes such as malpresentation, labour dystocia, caesarean delivery… postpartum haemorrhage, [and] maternal anaemia." A contemporaneous study from Nigeria found mixed evidence, showing an increased risk of adverse obstetric outcomes like abruptio placenta or precipitate labor, but a decreased risk of prolonged labor, placenta previa, and surgical intervention (Omole-Ohonsi and Ashimi 2011; Geidam et al. 2011). Still other studies have suggested that high parity may actually be associated with improved maternal health outcomes. A 2014 study in Finland found that "[c]ompared with primigravidae and multiparae, childbirths by grand multiparae proceed in a more regular manner" (Raudaskoski and Gissler 2014). And a 2012 study from Mali documented, despite the fact that "Grand multiparas were older, poorer, and less likely to have accessed prenatal care, grand multiparas had a lower adjusted odds of maternal death" (Teguete et al. 2012, 585).

What seems to be much more important for maternal health outcomes than parity is whether the context in which the pregnancy takes place is one of structural deprivation (Crear-Perry et al. 2021). The authors of a 2013 study from Tanzania, for example, found that grand multiparity was a risk factor to maternal health complications in their study, but also noted that "high parity is not considered to be a risk factor for pregnancy-related complications" in wealthier countries, due in large part to the presence of "antenatal care, skillful medical practitioners and adequate facilities for safe delivery" (Mgaya et al. 2013, 1). These authors argued that associations between high fertility and maternal health are not universal, but rather limited to contexts where people's lives and access to health services are constrained by poverty. Thus, some research argues that increased contraceptive use, in places where it is dangerous to give birth, may incrementally reduce maternal deaths that can be attributed to high parity. But contraception cannot fix the structural conditions that make recurring maternity a risk for death in some places much more than others.

Reducing Exposure to Pregnancy

In addition to reducing the per pregnancy risk of mortality, scholars have also argued that family planning can reduce maternal mortality by reducing the overall number of pregnancies as well. There is a simple and unassailable logic to the notion that reducing fertility reduces maternal deaths. This exposure/outcome relationship is incontrovertible as, by definition, a woman cannot die a maternal death if she simply does not get pregnant. In many of the most marginalized parts of the Global South and among marginalized groups, pregnancy and childbirth can be extraordinarily dangerous (World Health Organization 2012). And so, reducing the number of times

a woman is pregnant in her life necessarily results in a reduction of lifetime exposure to the risk of maternal death.

When taken to its logical conclusion, however, this line of argumentation rests on the logic that the way to eliminate maternal mortality is to eliminate pregnancy altogether, rather than to address the social, economic, and health inequities that render pregnancy and childbirth so dangerous for some groups while it is so much safer for others (Crear-Perry et al. 2021). If a woman from Sweden (maternal mortality ratio: 4/100,000 live births) can get pregnant as many times as she likes without expecting death, while a woman from Niger (maternal mortality ratio: 509/100,000 live births) cannot do the same, the fundamental problem is not one of biology, but of inequitable social conditions (World Bank n.d).

Maternal Mortality: Framing Fertility

We do not seek to argue that there is no evidence of any benefit of contraceptive use for maternal health and well-being. Access to contraception provides people with the tools to control their own reproduction, exercise autonomy over their bodies, and enjoy pleasurable sex lives (Higgins and Smith 2016). In addition, there is evidence that contraceptive use can provide some marginal benefits on a range of maternal health outcomes. Contraceptive use and subsequent decreased fertility are not, however, substitutes for access to high-quality reproductive and maternal health care and cannot be used to overcome the pernicious health effects of global health inequities. Placing the focus on decreasing fertility through contraceptive use, rather than addressing deprivation and marginalization, blames women's own reproductive capacities for ill health and shifts focus away from structural factors. This strategy individualizes the responsibility for maternal risk and death, concealing the role of underfunded health systems, structural discrimination, and global inequities in contributing to poor maternal health outcomes (Sochas 2019). High fertility is not a root cause of poor maternal health, and positioning contraception as a silver bullet leaves the vast, structural health inequities at the core of maternal health disparities unaddressed. The strength of the evidence promoting contraception to improve maternal health has been considerably overstated for the purposes of family planning advocacy, leading to the conclusion that contraceptive uptake and lower fertility constitute neither an effective nor equitable approach to combatting poor maternal health outcomes.

Fertility and the Environment

In addition to arguing for increasing family planning uptake to improve maternal health, global health and development scholars have also promoted claims that fertility reduction is necessary to protect the Earth's natural resources from the harmful effects of overpopulation (Bongaarts 2016; Gupta et al. 2011; Potts et al. 2011, for example). The ecological arguments for fertility reduction are some of the most well-established and widely used rationales for family planning. Warnings of impending environmental catastrophe were at the root of some of the most

influential population control rhetoric in the middle of the 20th century, including Paul Ehrlich's best-selling 1968 book, *The Population Bomb* (Erlich 1968).

Apocalyptic-style arguments about overpopulation and the environment mostly fell out of favor in global health circles after the ICPD, as reproductive health replaced population control as the stated rationale for global family planning programs (Hartmann 1997; Ashford 2014). However, the neo-Malthusian rationale that connects concerns about population growth to environmental fears has remained staple of post-ICPD family planning programming (B Hartmann 1997; Yavinsky et al. 2015; Bhatia et al. 2020). In recent years in particular, efforts to link population growth to environmental degradation have begun to reemerge more explicitly, now rebranded as "Population, Health, and the Environment" or PHE programs.

According to the Population Council, PHE programs take "an integrated approach" that aims to "simultaneously improve access to primary health care services, particularly family planning and reproductive health, while also helping communities conserve the critical ecosystems and natural resources upon which they depend" (Yavinsky et al. 2015, 3). Desired outcomes of PHE programs include both "increased access to and use of contraceptives" and "improvements in environmental indicators beyond achievements possible in single-sector projects" (Yavinsky et al. 2015, 3).

Like other neo-Malthusian claims, the arguments of PHE proponents often revolve around ideas of scarcity. They argue that many natural resources are finite and non-renewable and that the more people on Earth there are to consume these resources, the faster these resources will be depleted. Indeed, it may seem self-evident to many today, as it did to Malthus, that Earth's capacity to sustain human life—to provide food, clean air, clean water, and a safe climate—could never support infinite growth in human population.

The response to this intuitive understanding by many has been to promote family planning programming, based on what historian Michelle Murphy has described as "the biopolitical logic that some must not be born so that others might live more prosperously" (Murphy 2017, 114). Family planning scholar Malcolm Potts and colleagues, for example, wrote that "strategic emphasis on fertility regulation" in Niger is swiftly needed because

> Most climate scenarios paint a somber, even frightening, picture…The already high levels of malnutrition are likely to increase, and even without large-scale starvation, the death rate—especially among infants—is likely to rise.
>
> (Potts et al. 2011, 96)

The environmental concerns that these authors express about overpopulation may seem logically sound, since human population cannot grow to infinity without infinite planets on which to live, infinite oxygen to breathe, infinite soil in which to grow crops, and infinite food to eat.[3] But while there are indeed grave threats to the

[3] While this may be an interesting thought experiment, it does not reflect a real-world threat, as population growth rates are declining worldwide. The United Nations projects that world population will stabilize within the current century (United Nations Department of Economic and Social Affairs: Population Division 2022). And indeed, alongside the neo-Malthusian concerns we discuss here, there is also an increasingly alarmist discourse about population aging and fertility *decline*, particularly in wealthy countries (Christensen 2022).

ecological well-being of the planet, there is little scientific evidence to suggest that high fertility is their root cause or that increased contraceptive use presents an effective solution to the pressing ecological challenges of our day.

Population and Food Security

As the debate between proponents and challengers to Malthusian thinking has evolved over the centuries, each new generation has brought its own unique concerns regarding which resource will soon be depleted. One perennial concern since Malthus, however, has been providing a sustainable food supply to a fast-growing population. And yet, adaptations and innovations in food production and other technologies have allowed human populations to thrive while the population continues to grow to levels unimaginable to Malthus (Khush 2001).

The fruits of these technological advancements, however, have been unequally distributed throughout the world's population, resulting in an overabundance of food for some and extreme food insecurity for others. There have been, for example, many instances of wide-scale famine, food shortages, and lack of other critical resources around the world throughout the 19th and 20th centuries. Research has shown, however, that very few of these were caused by a lack of food writ large. Instead, a wealth of scholarship shows that these disasters stemmed from episodes of conflict, inequitable distribution of resources, and other human-made problems, rather than true ecological scarcity (Sen 1983; Lynk 2008; Waal 2017). Crises in Ukraine, global inflation, and supply chain tangles at the time of writing only serve to reinforce the role that geopolitical processes play in the distribution of goods, even in the absence of global scarcity.

At the global level, United Nations estimates that in 2021, the world produced enough food to feed 10 billion people (over 2 billion more people than the world population at the time). And yet, at the same time, nearly 690 million people around the world were characterized as chronically undernourished (Food and Agriculture Organization of the United Nations 2021). With so much food already going to waste, little evidence in the scientific literature supports the conclusion that population growth poses a threat to the global food supply or that changes to population size would adequately address the fundamental problems of inequitable distribution. Undernutrition and starvation cannot be reduced to a math equation that divides the amount of food in the world per capita because it is unequal distribution that perpetuates hunger, as opposed to a global deficit of calories or protein. There is scant evidence to suggest that increasing contraceptive use and reducing fertility, even in areas where food insecurity is prevalent, would do anything address these fundamental issues and their root causes.

Population and Climate Change

While concerns about food supply have been mainstays of neo-Malthusian thought, much recent concern has centered around climate change. Jade Sasser, for example, has documented how private foundations shaped the scientific landscape, promoting

the link between family planning programs and reduced greenhouse gas emissions (Sasser 2018). While moving away from explicitly Malthusian language, post-ICPD scholars and policymakers have deployed "family planning as climate mitigation strategy" to foreground family planning as a commonsense solution (Stephenson et al. 2010; Senderowicz and Nandagiri 2022; Sasser 2018). Many of these scholars have argued that increased modern contraceptive use leading to lowered fertility is an urgent tool in the fight to alleviate climate change, as "Every person born adds to greenhouse gas emissions" (Guillebaud and Hayes 2008, a576). In 2016, physician researcher Guillebaud (2016, 2) argued for the role of clinical family planning providers in addressing climate change in the *British Medical Journal*, urging the "climate concerned clinician" to promote long-acting contraceptive methods like the IUD, urge patients to adopt replacement fertility, and support population control organizations.

One important point of contention in this debate is the relative contribution of population growth and consumption to climate change and other sources of environmental degradation. Those arguing for fertility control often acknowledge that curbing population is only one piece of the puzzle, conceding that excess consumption among the wealthy is also an important cause of climate change. In their 2020 piece in *Contraception* entitled "Family planning, population growth, and the environment," for example, Jensen and Creinin (2020, 6) wrote that "The world cannot sustain unchecked consumption in rich nations, nor high fertility in poor nations." Similarly, Stephenson et al. (2010, 150) conceded that "The contribution of low-income, high-fertility countries to global carbon emissions has been negligible to date," but argued in the same paper that family planning uptake is necessary to reduce fertility because "Rapid population growth endangers human development, provision of basic services and poverty eradication and weakens the capacity of poor communities to adapt to climate change." Even acknowledging the dominant role of excess consumption, these scholars still emphasize family planning and fertility reduction as tools to address climate change.

These authors are indeed correct that there is little evidence, however, to suggest that population growth in the Global South is an important contributor to global greenhouse emissions or other important causes of climate change. Instead, considerable evidence has detailed how runaway consumption by a small proportion of the world's wealthiest drives climate change (Patz et al. 2007). In 2019, Kenner (2019) coined the term "polluter elite" to describe the wealthiest 5% of the global population, who were responsible for 37% of global growth in carbon emissions between 1990 and 2015. According to the United Nations, the world's wealthiest 1% produce double the combined carbon emissions of the poorest 50% (United Nations Environment Program 2020). Any exploration of the relative contributions to carbon emissions or other pollution by country shows unequivocally that the countries with among the lowest total fertility rates globally contribute the most to environmental degradation, while the highest fertility countries have barely made a mark (Patz et al. 2007).

One well-known example of this disparity in consumption between Global North elite and Global South entered public consciousness in 2013, when the

Liberian President Ellen Sirleaf Johnson highlighted the electrical consumption of the new football stadium the Dallas Cowboys had just built. This new stadium drew 10 MW of electricity on game day, which was more than three times the daily capacity of the entire electrical grid of the nation of Liberia (Whitmire 2013). This enormous disproportion between the environmental impact of American football fans and Liberians might be sufficient evidence to convince USAID to take the money it spends promoting family planning and reducing fertility in Liberia (TFR: 4.3) and devote these funds instead to dismantling the National Football League here in the USA (World Bank 2014). If this suggestion seems outlandish, it is only because we are aware of the political influence and economic might of Global North–based corporate entities like the NFL. Likewise, we are equally aware that Liberian women have historically been and remain today excluded from global decision-making processes, including those related to the targeting and regulation of their own bodies.

Not only is there little evidence to suggest that high fertility is the root of climate change (or other environmental problems), but no evidence shows that reducing fertility has produced ecological benefits in the Global North, where demographic transitions from high to low fertility happened decades ago. According to the modernization theory of development to which most mainstream family planning scholars subscribe, the endpoint of global development is what economist Rostow (1960) named "the stage of high mass-consumption." In the Global North, this low fertility stage has been characterized by just the type of unchecked, unsustainable consumerism and runaway waste that is responsible for our outsized role in climate change. The contribution of Global North countries with below replacement fertility to carbon emissions and other threats to environmental sustainability are orders of magnitude higher than those of Global South countries with higher fertility, and there is little evidence to suggest that reducing the fertility rates of those Global South countries would affect these patterns of wasteful overconsumption.[4]

The academic literature and civil society debates around population and climate change are vast and multifaceted; we do not intend to summarize the entirety of this literature or to imply that that there is no way in which population dynamics are plausibly related to environmental outcomes. Rather, broadly discussing food, climate, and ecological well-being, we find little evidence to support the claims that high fertility among the Global South is responsible in any meaningful way for the world's environmental challenges, nor is there any reason to imagine (let alone evidence to suggest) that reducing fertility through increased contraceptive uptake would prove a successful strategy for addressing global environmental woes.

[4] Additionally, the very arguments that pit potential lives averted in the Global South against (potentially higher emitting) lives in the Global North can foreclose a political economy or ecology approach, which analyzes fossil fuel industries, imperial governments, monocrop giants, and others; critical scholars posit that these players, more than any individual-from-aggregate output, perpetuate and worsen global climate change (Ojeda, Sasser, and Lunstrum 2020).

There is, however, clear evidence that those already marginalized will likely bear the brunt of the fallout from climate change and ecological degradation as the polluter elite use their wealth to shield themselves from the worst effects (Grace 2017). Terms such as "climate gentrification" have begun to describe the development of luxury housing for the wealthy in places more protected from effects of climate change, forcing poor communities out (Harris 2018). Given the evidence that the causes of environmental degradation lie not in the reproductive bodies of women in the Global South but rather in the private jets of the Global North, it seems particularly spurious to frame fertility as the cause of, and contraception as the solution to, environmental challenges.

Scholars across disciplines have taken issue with approaches that deploy the "Malthusian specter of overpopulation…in ways that are profoundly depoliticizing and that serve projects of militarization, misogyny, and racism"(Ojeda et al. 2020). In pushing back against "climate coloniality" and the links between environmental destruction, gender, and racial capitalism, geographer Farhana Sultana has elaborated new ways of understanding "spatial intersectionality" and other approaches to understand vulnerability to ecological catastrophe as experienced heterogeneously, depending on socioeconomic, geographic, and geopolitical locations (Mahony and Endfield 2018; Sultana 2022b, 121). Works by philosopher Táíwò (2022) on climate reparations, along with larger bodies of work by Indigenous scholars, African scholars, and other scholars of environmental justice, have articulated language and theory to address environmental crises (Whyte 2020; Whyte 2017; Sultana 2022a). These scholars center those most affected by these crises and seek to dismantle structural causes of global inequality that have led to the current environmental crisis, providing pathways forward at once more effective and more equitable than attempting to reduce fertility as a means to alleviate climate change.

Fertility and Global Poverty

In addition to concerns about ecological scarcity, scholars have applied a similar neo-Malthusian logic to global poverty, positing that fertility reduction through contraceptive uptake is a necessary precondition for economic development. These views stem from the conception of a "Malthusian trap," in which population growth exceeds a nation's ability to sustain economic growth (Steinmann et al. 1998). A number of economists and global family planning scholars have developed an array of rationales for promoting fertility reduction efforts through family planning, framing high fertility as both a primary cause of poverty and a substantial barrier to economic progress. This reasoning, in turn, has been marshalled by global family planning initiatives like FP2020 that helped revive quantitative contraceptive uptake targets in ways that harken back to pre-Cairo quotas for family planning adopters (Lapham & Mauldin, 1972; Phillips, 1978; Brown et al. 2014).

The precise focus and mechanism of the rationales blaming high fertility for poverty has evolved over time, but the "Demographic Dividend" has become the most influential over the past two decades. The Demographic Dividend is an economic theory that draws connections between family planning programs, fertility

reduction, and economic prosperity. The Demographic Dividend was brought to prominence by economists David Bloom and David Canning, who studied the rapid economic growth among Celtic and East Asian "tiger" countries in the latter half of the 20th century (Bloom et al. 2003; Bloom and Canning 2003). They found that the rapid decrease in lifetime fertility in these countries brought about a favorable dependency ratio between those contributing to the labor force and those not (such as the elderly and young children). The favorable dependency ratio, in turn, boosted labor supply and economic productivity.

Though there has been great hope that this Demographic Dividend would replicate itself in other contexts, African countries have, for the most part, not experienced this "miracle," despite great emphasis by researchers and policymakers (May and Turbat 2017). The African continent has made substantial progress reducing child and overall mortality (even in the face of HIV/AIDS), but fertility has not fallen as fast as many economists and demographers had hoped, leading demographers to characterize Africa's fertility transition as "stalled" or "lagging" (Bongaarts and Casterline 2013, 8; Conley et al. 2007, 1).

Perhaps believing economic arguments to be more effective than rights-based arguments in marshalling broad support, many reproductive health advocates have embraced the logic of the Demographic Dividend. The theme of the 2018 International Conference on Family Planning, for example, was "Investing for a Lifetime of Returns," featuring a Demographic Dividend pre-conference, two dedicated Demographic Dividend Sub-Committees, and a main conference track called "Returns on investment in family planning and the Demographic Dividend" with nine panel sessions (Republic of Rwanda, Health, and Johns Hopkins Bloomberg School of Public 2018). Reproductive health organizations such as the International Planned Parenthood Federation have also advocated for family planning programs using the Demographic Dividend, showing how economic arguments for family planning deploy political currency, convincing not just health ministers but finance ministers to care about contraception and regulating fertility (International Planned Parenthood Federation 2013).

As the Demographic Dividend has spread from the economics literature into development practice and family planning programs, however, the theory has been oft misapplied and stretched well beyond what evidence supports. One primary point of contention has been the relative contributions of population age structure versus education to productivity gains attributed to the Demographic Dividend. The original theory of the Demographic Dividend emphasized that both fertility decline and abundant educational and employment opportunities for the newly unencumbered working age population were necessary preconditions for economic success (the "dividend" itself). Economists have expressed frustration that applications of the theory outside of academic journals have focused so disproportionately on fertility reduction without commensurate attention to government provision of educational opportunities and productive employment.

There is ongoing debate, too, about the relative importance of fertility decline vs. educational attainment for unlocking the Demographic Dividend. According to demographer Wolfgang Lutz and colleagues,

> A population in which the number of children declines and thus the proportion in working age increases is worse off than in the case of no such change if the education level of the population is low… [A]ge structural change by itself does not open any specific opportunity and the improvement of human capital is the primary and dominant driver of the true demographic dividend.
>
> (Lutz et al. 2019, 12802)

Lutz provides a counterpoint to those who argue that fertility decline would necessarily be a boon to all poor countries with high fertility: in the case of a population with low educational attainment, these authors argue that fertility reduction produces worse economic outcomes than no change at all. Other scholars document how the "youth bulge" on which the Demographic Dividend relies can even become a liability for governments, rather than a boon, if people reach working age to find widespread under- or unemployment rather than good jobs (Omoju and Abraham 2014; LaGraffe 2012)[5]. Whether the dominant driver of the Demographic Dividend is ultimately education, as Lutz and colleagues claim, or population age structure, as Bloom and Canning first hypothesized, most agree that increasing contraceptive use and decreasing fertility rates will bring few economic benefits without broader, structural changes that bring more opportunities for young people.

Acknowledging that other conditions must be in place for economic development, many family planning scholars nonetheless emphasize the central role of family planning in creating the conditions necessary for economic development in the Global South. Political scientist and family planning researcher Steven Sinding, for example, wrote that

> Fertility reduction is by no means an economic development panacea and is certainly not a sufficient condition for economic growth, but it may well be a necessary condition, establishing conditions in which governments can invest more per capita in education and health, thus creating the human capital for sustained economic growth.
>
> (Sinding 2009, 3030)

When examining the role that of fertility reduction might play in establishing these favorable conditions for human capital development, however, economists have found the impact to be quite small.

In 2017, researchers designed a macrosimulation model to quantify the effect of fertility decline on economic growth in Africa and found that the size of the economic boost the Demographic Dividend would be able to generate was small and would "not be sufficient to help a developing country 'vault into the ranks of the developed'" (Karra et al. 2017, 259). The authors concluded that under their most optimistic scenario, "even if fertility were to decline and income per capita were to roughly double as we predict, it would still not be enough to close the estimated

[5] See Hendrixson and Hartmann 2019 for a deeper dive into the racializing and alarmist underpinnings for "youth bulge" debates.

30-fold gap in income per capita between rich and poor countries" (Karra et al. 2017, 260). A study from 2013 reached a similar conclusion, finding that in Nigeria over 50 years, "a TFR reduction of 0.5, amounts to a change in the growth rate of only about 0.2 percent per year. By contrast, between 1990 and 2009, GDP per capita in Nigeria grew at 2.9 percent per year" (Ashraf et al. 2013, 33). These studies show that even in the most optimistic parametrization of models for fertility decline and economic growth, the economic impact of increased contraceptive use and subsequent reduced fertility would be marginal, and dwarfed by existing global inequalities.

In addition to concerns about the relative size of the Demographic Dividend's impact, there are important concerns about its transportability outside of its original contexts. Many countries completed their demographic transitions but did not experience the rapid economic growth that characterized the Asian or Celtic Tigers. Bloom and Canning (2000), for example, present the example of Russia, which experienced precipitous declines in income during its transition to a market economy, despite low fertility. Many other examples demonstrate that a range of particular geopolitical realities have prevented countries from experiencing the benefits of a prototypical Demographic Dividend. Countries in Central America and North Africa provide additional examples wherein fertility fell precipitously, population growth slowed, but massive inequalities persisted, with the majority of residents continuing to struggle in poverty.

Guatemala, for instance, has a total fertility rate of 2.8 and a contraceptive prevalence over 60% (World Bank 2014). At the same time, in 2021 the country ranked 127th out of 189 countries on the Human Development Index: 28.9% of the population lived in what the United Nations calls "multidimensional poverty" alongside a high Gini coefficient (a measure of wealth inequality) of 0.483 (United Nations Development Program 2021). Even the swiftest fertility transition could do little to counteract the economic consequences of Guatemala's brutal history of colonial domination, the extractive nature of its export economy, and the violent aftereffects of dictators, civil war, and genocide (Fischer 2001). By framing fertility as a fundamental obstacle to development and assuming that that the Demographic Dividend observed in East Asia and Western Europe could be transportable throughout the Global South, family planning advocates have elided the importance of each context's unique historical and geopolitical context.

Finally, evidence has shown that contraceptive use may be only tenuously related to long-term economic well-being at both the macro- and micro-levels. Reproductive health and development scholars have long used findings from the influential Matlab quasi-randomized family planning intervention in Bangladesh to exemplify wide-ranging benefits of increased family planning, including increased women's income and household wealth (Gribble and Maj-Lis 2009). After a 35-year follow-up period, however, researchers found "few long-term program effects on women's health or economic outcomes" associated with exposure to the project's intensive family planning intervention (Barham et al. 2021, 3). The authors examined economic outcomes including employment status, individual earnings, and savings, finding no significant impact of family planning activities across these outcomes longitudinally.

This body of evidence thus casts doubt on claims that family planning can provide meaningful help in solving poverty writ large and also complicates claims of substantial and long-term economic benefits of contraceptive use at the individual level. Research shows that, in certain contexts and when certain assumptions are met, changes to contraceptive use and fertility rates can have some beneficial effects related to economic outcomes. We find, however, that these impacts have often been short-lived rather than sustainable, and marginal compared to many other macroeconomic factors. The focus on encouraging contraceptive uptake in pursuit of the Demographic Dividend can serve as a distraction that diverts focus from the root causes of poverty and inequity, shifting the blame for poverty (as well as the onus to solve it) away from structural causes and onto the bodies of the poor. Even under the most optimistic scenarios, there is little reason to believe that contraceptive uptake and fertility decline could have a meaningful effect on reducing poverty (either at the global or individual level) without structural changes to address vast wealth inequities between the Global North and the Global South.

Conclusion

Family planning remains an appealing global health intervention to many in this post-ICPD era. Contraceptive programs are portrayed as a cost-effective solution to the haunting specter of overpopulation, and the myriad-purported benefits of family planning dovetail with other progressive goals including women's health, environmental protection, and poverty alleviation. In their quest to solve so many challenges of sustainable development using contraception, however, many family planning programmers mistakenly frame fertility as a fundamental cause of these challenges, leaving the real culprits at large. These true culprits—entrenched health inequities, overconsumption and waste, unequal distribution of resources, and extractive colonial economic relationships, among others—lack quick, technological solutions. And while many scholars and activists have addressed these complex issues head on, many others have remained fixated on fertility reduction and contraceptive use as a silver bullet. The promise of reproductive rights and autonomy articulated at the ICPD, therefore, remains unfulfilled as these instrumentalist arguments remain so dominant.

Critical scholars and activists have argued for decades that instrumentalist rationales for family planning are fundamentally flawed, positing that they employ misogynist, racist, and colonial logics that implicate reproductive bodies of women of color living in the Global South, relying on subtly reframed eugenic arguments about how social problems can be solved by preventing what are perceived as the wrong kind of births (Gubrium et al. 2016; Hendrixson and Hartmann 2019). Skeptics of the ICPD compromise predicted that instrumentalist approaches to family planning would leave the door open to a continued subordination of reproductive rights to these external goals (Petchesky 1995; Hartmann 1997). Yet, the mainstream of the global family planning community continues to emphasize instrumentalist approaches, arguing they are both necessary to prevent greater suffering in the future as well as wholly compatible with rights-based approaches to reproductive

health. Proponents have argued that the paired goals of fertility reduction and gender equity rationales for contraceptive uptake, aligned, are mutually reinforcing, especially when scholars emphasize the voluntary nature of family planning programs (Guillebaud 2016).

But despite paucity of investment in research into contraceptive coercion, an emerging body of public health evidence demonstrates how instrumentalist approaches to fertility reduction sit in tension with reproductive rights and autonomy, causing real harm. Histories of overtly coercive population control have given way to a present-day family planning context in which coercive practices remain commonplace. Even though in the post-ICPD era, family planning programs take great care to affirm the importance of voluntarism in their work, there is evidence that they continue to violate reproductive rights in the pursuit of contraceptive uptake both in the Global North and the Global South (Britton et al. 2021; Yirgu et al. 2020; Manzer and Bell 2021; Senderowicz et al. 2021; Towriss et al. 2019; Brandi and Fuentes 2020). Motivating family planning programs to focus exclusively on contraceptive autonomy could help remove incentives that have led facilities and providers to use coercive practices to achieve contraceptive uptake (Senderowicz 2020).

In addition to these long-standing concerns about coercion, we have found here that the evidence and assumptions on which instrumentalist arguments for family planning rely are considerably shakier than often portrayed. Many of the claims about the perils of high fertility and the instrumentalist benefits of contraceptive use rely on evidence that is substantially weaker than commonly acknowledged, with data conflicting, assumptions unjustified, effect sizes small, or evidence altogether lacking. Much of this evidence has long been available but has largely failed to interrupt the accepted narrative of family planning as a silver bullet. To paraphrase feminist demographer Desai (2000, 428), much of the evidence we marshal here is "not new, just overlooked."

As the global family planning community continues grapple with both the promise and the compromises of the ICPD, we have highlighted here how the alliance forged at ICPD between neo-Malthusians and feminists left the door open to instrumental approaches to family planning, so long as they paid lip service to the notion of voluntarism. This approach failed to challenge (let alone dismantle) programs based on a neo-Malthusian ideology of fertility reduction. We argue here that the continued focus on fertility reduction in the post-ICPD era is, at best, a distraction and, at worst, a scapegoating of marginalized women's bodies to solve problems they had no hand in creating.

These findings lead us to conclude that the path to sustainable development and reproductive freedom involves neither continuing to target reproductive bodies with instrumentalist approaches to family planning nor reducing access to high-quality contraceptive care. Person-centered reproductive health services—including comprehensive abortion care and access to a broad range of contraceptive methods—are a human right and vital to gender equity. Population researchers must cease to imagine women's bodies and their reproductive capacities as a theoretical instrument to be manipulated for social change. And family planning programs, amidst a resurgence of quantitative targets decades after the ICPD, must avoid the temptation

to seek funding and curry favor by promising their programs will lead to the types of outcomes policymakers hope to see. Instead, by basing their program on a historically embedded and intersectional understanding of reproductive justice, family planning programs can help to enable a future where, globally, people can choose when and how to form their families and where all families can raise their children in safe, just environments.

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Declarations

Conflict of Interest The authors declare no competing interests.

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