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PERSPECTIVE

Is legal abortion required for a sustainable population?

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Abstract

Humanity's impact on the planet has surpassed sustainable limits, driven by population growth, consumption and limited efficiency gains (Bradshaw et al., 2021; Ehrlich and Holdren, 1971). While consumption in the Global North remains excessive, welfare improvements in the Global South require some growth in consumption. A smaller global population would aid sustainability, yet the current population exceeds 8 billion – well above most estimates of a sustainable size (Crist et al., 2022). Although modern contraception has reduced fertility, over 120 million unintended pregnancies occur annually (Bearak et al., 2020), and induced abortion remains vital for achieving desired family size and stabilising population growth (Tietze and Bongaarts, 1975). This article examines countries with total fertility rates (TFR) at or below replacement level (2.1), where abortion laws remain restrictive, and explores how access to legal abortion influences reproductive autonomy, population stabilisation and long-term environmental sustainability.

Keywords

Abortion, sustainable population, fertility, TFR, replacement fertility, menstrual regulation.

The human impact on the natural world can be thought of as a product of a combination of population, consumption and technological efficiency. Our current

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collective impact is far from sustainable and is growing (Ehrlich and Holdren, 1971; Bradshaw et al., 2021). There seems to be little interest in reducing the excessive consumption of the Global North. On the other hand meeting the welfare needs of people in the Global South requires their consumption to grow. Increasing efficiency of the use of resources and of energy is ongoing, but is outstripped by a combination of the growth in consumption and population (Chaurasia, 2020). In contrast, however, hundreds of millions of people are interested in attempting to limit their fertility (Sully et al., 2020). Overall, a smaller human population will aid efforts towards environmental sustainability. As Crist et al. put it:

> the international imperative in this time of converging calamities is to lower the total fertility rate (TFR) beneath the replacement figure of 2.1 (currently it is 2.4), in order to slowly reduce the global population beneath current levels. Environmental analysts regard a sustainable human population as one ... retaining its biodiversity and with climate-related adversities minimized. Analysts' estimate of that population size vary between 2 and 4 billion people (Crist et al., 2022).

Despite widely expressed fears about depopulation, the environments in at least three countries have already experienced benefits from decreasing population (Matanle et al., 2022).

Human population is now over eight billion people and although there is debate over how many people can live sustainably (Cohen, 1995), there is little question that we are far from being sustainable. There are many estimates of the maximum size of a sustainable population, but all seem to be lower than our current and projected population size (Samways, 2022).

Although modern contraception has helped people limit their fertility, globally there are still over 120 million unintended pregnancies each year (Bearak et al., 2020). Abortion is a universal way women have used to limit their fertility and remove unintended pregnancies (Devereux, 1976). According to Tietze and Bongaarts: 'levels of fertility required for population stabilization cannot be easily obtained without induced abortion' (Tietze and Bongaarts, 1975). Campbell, Prata and Potts reiterated this assertion over a third of a century later: 'All societies use a combination of contraception and abortion to limit family size.'(Campbell,

Prata and Potts, 2013) Mumford and Kessel looked at the issue of population stabilisation from what now is rightly regarded as the ethically indefensible viewpoint of 'control'. They found that both safe and unsafe abortion are needed to slow growth, even where contraceptive usage is prevalent (Mumford and Kessel, 1984).

In addition to aiding individual women solve the problem of unintended pregnancies, abortion also helps slow the human population growth rate. Although our global fertility is approaching replacement fertility of 2.1, the current Total Fertility Rate (TFR) is approximately 2.25 (United Nations, 2025). However, due to population momentum (the forward growth of population due to the offspring of a high fertility generation having [fewer] children themselves), growth continues after fertility has fallen to replacement levels. A TFR of 2.1 or below will speed progress to a stable (or declining) population. Contraception is primary prevention of unintended pregnancy, while abortion, be it legal or illegal, can be considered secondary prevention.

The question arises: 'how important is access to legal abortion care for people to manage the size of their families in countries that are at or below replacement fertility?'[2]

To attempt a preliminary answer to this question I searched for countries and territories where the TFR was at replacement level or below, and where abortion laws prohibited or severely restricted access to abortion, i.e., in categories **1** and **2** described below.[3]

The TFR which will eventually reach a constant population size varies from country to country. It is generally given as 2.10 for a developed country, although the

2 It should be recognised that some women will strive to abort unintended pregnancies, whether or not abortion is legal (Devereux, 1976). There are indications that, under certain circumstances, abortion is actually more common where it is illegal or severely restricted (Bearak et al., 2020). Unfortunately, it is difficult to obtain data about illegal abortions; therefore I have not attempted to quantify the effect of illegal abortions on fertility. We should remember that the most effective way to reduce the need for abortion is with access to contraception. There will always be some demand for abortion, however, because all contraceptive methods have finite failure rates (Bongaarts and Westoff, 2006).

3 For the purposes of this study, the term 'country' will be used to include 'territory'.

number would be somewhat higher for some less developed countries with higher mortality rates. For the sake of simplicity, 2.10 was used in this study for every country.

Online databases were accessed for both fertility and the legality of abortion. The 2024 data from the United Nations World Population Prospects was searched for countries estimated to have a TFR of 2.10 or less (United Nations, 2025).

I used The World's Abortion Laws as the primary database for the legal status of access to abortion (Center for Reproductive Rights, 2025). They claim that the data are 'updated in real time'. Furthermore, I used their categories of abortion laws: **1.** Abortion is prohibited altogether; **2.** Abortion is limited to saving the woman's life; *3.* Abortion is limited to preserving the woman's health; **4.** Abortion is allowed for broad social or economic grounds; **5.** Abortion is available on request. For the few cases when this database didn't list a country, I searched for the information online, which resulted in multiple sources being used.

I have assumed that women can usually access safe abortion services in categories **3**, **4** and **5**; even though the category **3**, 'to preserve the woman's health' could be interpreted as being restrictive, an empathetic provider could find a health reason for almost everyone requesting an abortion – especially if mental health reasons are included. On the other hand, only a very small minority of women would qualify for abortion care where the law will only allow abortion in category **2**, 'to save the woman's life'.

No attempt has been made to determine how every one of these countries where access to safe abortion services is very limited or non-existent has achieved low TFRs. However, I did look at surrounding countries to see if access to abortion services is available in an adjoining country, and have found other ways in which countries with low TFRs get around legal abortion restrictions.

Of the 240 countries listed in the United Nations World Population Prospects (2024), more than half, 134, had a TFR of 2.10 or less in 2024. A total of 28 of these countries with lower fertility despite having the most restrictive abortion laws, falling in categories **1** or **2**.

Table 1. Countries with very restrictive abortions laws and replacement or less fertility in 2024

	Country	TFR (Fertility)	Abortion status	Island?
2024	Panama	2.09	2	
2024	Myanmar	2.08	2	
2024	Venezuela	2.06	2	
2024	Cook Islands	2.00	2	Y
2024	Sri Lanka	1.94	2	Y
2024	Philippines	1.88	1	Y
2024	Palau	1.86	1	Y
2024	Bahrain	1.78	2	Y
2024	El Salvador	1.75	1	
2024	Iran	1.67	2	
2024	Aruba	1.60	2	Y
2024	Brazil	1.60	2	
2024	Antigua & Barbuda	1.58	2	Y
2024	Cayman Islands	1.51	2	Y
2024	Saint Kitts & Nevis	1.51	2	Y
2024	Dominica	1.47	2	Y
2024	Montserrat	1.45	2	Y
2024	Turks & Caicos Islands	1.44	1	Y
2024	Sint Maarten (Dutch)	1.43	1	Y

	Country	TFR (Fertility)	Abortion status	Island?
2024	Bermuda	1.41	2	Y
2024	Anguilla	1.35	2	Y
2024	Jamaica	1.34	1	Y
2024	United Arab Emirates	1.21	2	
2024	Chile	1.13	2	
2024	Malta	1.11	2	Y
2024	Andorra	1.10	1	
2024	Curaçao	1.07	1	Y
2024	British Virgin Islands	1.06	2	Y

From the above we see that 28 countries have low TFRs without access to legal abortion services, apparently contradicting Bongaarts and Tietze's assertion. However, there are several ways that low fertility can be achieved despite severe legal restrictions on access to abortion care. In some cases, women have access to safe abortion services in an adjoining country; two examples are given below.

The island of Saint Martin presents a unique example where a short trip can take a woman from a category **1** country to one that is category **5**. This island is divided between Dutch and French governance, but there is no barrier or customs at the border and people often go back and forth from one country to the other. While Dutch Sint Maarten prohibits abortion completely, French Saint Martin allows abortion care on request. Andorra, one of the tiny countries in Europe, also prohibits abortion, but access to abortion services is not far away. Abortion is legal on request both in Spain to the south and France to the north.

Easy travel to a place where legal abortion is accessible is not the rule, however, for most of the other 26 countries that severely limit or prohibit abortion. For instance, a woman in El Salvador, which now has a total prohibition on abortion, would be unlikely to receive an abortion in either of its two neighbours, Honduras

and Guatemala, which also severely limit or entirely prohibit abortion. Political barriers may also be prohibitive. For instance, there likely would be political and cultural barriers for a woman in Iran (Category **2**) to get care in her neighbouring countries, Turkey or Turkmenistan, both of which are Category **5**.

Some island countries have a disconnect between their law and their practice. A study of five island countries of the northeast Caribbean found that abortion was not uncommon, despite it being illegal (Pheterson and Azize, 2008). This legal flexibility was confirmed in a southern Caribbean island, Curaçao, where abortion is strictly forbidden by law. Nevertheless, currently there is a policy of tolerance and over 1,100 abortions were performed by physicians in Curaçao during the period of one year, ending 1 November 2009 (Boersma et al., 2012).

Bangladesh, with a TFR of 2.11, is worthy of note, even though it is not included in this study, because its fertility is just over the cut off of 2.10. This country is exceptional because abortion is only legal to save a woman's life (Category **2**). However, it has legalised 'Menstrual Regulation' (MR). MR is defined as starting vaginal bleeding when a woman's period is late. This can be done with medication or herbs, or by physically removing the uterine contents (Kessel, Brenner and Stathes, 1975). Bangladeshi law allows MR up to twelve weeks after the onset of the last bleeding. It is not necessary to know if the woman is actually pregnant or not. In many cases, however, MR causes an early abortion. The law allowing MR was established in 1979 in order to decrease maternal deaths from unsafe abortions (Hossain et al., 2012).

It is interesting that 19 of the 28 countries with low TFRs and severe abortion restrictions are island states; several of these are in the Lesser Antilles, as noted above. For dwellers on an island with restrictions but without a policy of leniency, it would be necessary to either travel by boat or plane to a country with a more liberal abortion policy.

From this brief survey of the data, we see that there are currently 134 countries in the world with fertility low enough to eventually produce a constant or decreasing population. Access to abortion care is completely illegal or severely restricted by law in 28 of these countries, yet they have a TFR below 2.10. In some of these countries, women may seek abortion care by international travel

or by their country's willingness to disregard local laws. Illegal, unsafe abortions are performed in some countries with low fertility, but this is difficult to quantify. Despite what has been thought in the past, it is apparently possible to have replacement level fertility without legal abortion care. In some countries this is probably possible due to easy travel to a place where legal abortion is readily available, and elsewhere safe abortion services are available because of an agreement with legal authorities to ignore restrictive laws against abortion.

I suspect that many women in the 28 countries that fulfilled these criteria sought illegal abortions. If so, many of these women would suffer medical problems. Some would become infertile. More than a few would die from infection or hemorrhage. Many would experience abuse because of needing to go outside the legal system, thus needing to pay exorbitant prices to abusive abortion providers.

Worldwide, more than half of all unintended pregnancies end with an induced abortion (Bearak et al., 2020). Although it is difficult to obtain information about unsafe abortions, it is estimated that globally almost half of all induced abortions are unsafe (Ganatra et al, 2017).

With a proper protocol, medication abortion with the combination of misoprostol and mifepristone, or misoprostol alone, is very safe and effective. Misoprostol alone is the most common black-market drug for abortions outside of the medical care system. Too high a dose can cause uterine rupture and maternal death from exsanguination. Too low a dose may be insufficient to abort the pregnancy, but can cause serious harm to the fetus, resulting in a child living with congenital anomalies.

I was an abortion provider for 43 years and many of my patients have told me the importance of abortion care to themselves and their families. One of these, a quiet teenager, stands out in my mind. After the procedure she told me: 'Thank you, doctor. You have given me back my future.' My belief is that all women should have the option to have a safe abortion for an unintended pregnancy.

We think of abortion care primarily as benefiting individual women and their families. However, there are global benefits for all women to have access to safe abortion care. With over 120 million unintended pregnancies each year, it is difficult to imagine a sustainable human population without access to legal abortion.

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