



The Ethics of Population Policy for the Two Worlds of Population Conditions

Ming-Jui Yeh¹ · Po-Han Lee¹

Accepted: 9 July 2023

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2023

Abstract

Population policy has taken two divergent trajectories. In the developing part of the world, controlling population growth has been a major tune of the debate more than a half-century ago. In the more developed part of the world, an inverse pattern results in the discussion over the facilitation of population growth. The ethical debates on population policy have primarily focused on the former and ignored the latter. This paper proposes a more comprehensive account that justifies states' population policy interventions. We first consider the reasons that support pro-natalist policies to enhance fertility rates and argue that these policies are ethically problematic. We then establish an ethics of population policy grounded on account of self-sustaining the body politic, which consists of four criteria: survival, replacement, accountability, and solidarity. We discuss the implications of this account regarding birth-control and pro-natalist policies, as well as non-procreative policies such as immigration, adoption, and unintended baby-saving strategies.

Keywords Population growth · Population control · Public health ethics

Introduction

Population policy, a set of policy tools and strategies aiming at influencing the number, quality, and structure of a population, remains one of the most significant issues in the fields of public health, social policy, and broader human development. How-

✉ Ming-Jui Yeh
mjyeh@ntu.edu.tw

Po-Han Lee
pohanlee@ntu.edu.tw

¹ Institute of Health Policy and Management, College of Public Health, National Taiwan University, 17 Xuzhou Rd, Taipei City 100, Taiwan

ever, the ethical relevance of population policy has phenomenally altered along with the divergence of the two worlds of population conditions.

That is, in one world, starting more than a half-century ago, the debate focused on birth control. Scholars and political leaders found consensus on the moral imperative to limit the overgrowth of the population around the globe. On the one hand, human developments such as illiteracy, starvation, malnutrition, deteriorating human health, and broader environmental and ecological conditions were at stake; on the other hand, stood the individual's right to or freedom of choice to procreate at will [1–3]. Branding “family planning” as an integral part of public health services, international organizations and domestic governments invested resources and implemented a series of interventions aimed at reducing excessive population growth [4–9]. By that time, population policy was understood as a policy that seeks “to limit the size of populations” [10].

The major ethical concern, then, was whether and to what extent the government could legitimately limit population growth and whether individuals have a moral responsibility on this matter (and, if yes, then the government's intervention in people's freedom to procreate may be warranted) [11]. Such a concern was the tune of population policy in the era of the Oil Crisis, Cold War, and emerging Environmentalism. Today, overpopulation is still the major problem that population policy seeks to address. Family planning, contraceptives, tax benefits for people with fewer children [12], and other more transformative strategies, such as improving women's education and economic opportunities, are in place. A recent report published by the Institute of Future Studies in Sweden indicates the developments of population policies worldwide: among the 192 countries, 42% wanted to lower the fertility rate [13].

In the other world, however, population policy is far more complicated. While in the old world, the tune remains roughly the same as in the past [14], a part of the population policy has taken a divergent trajectory into the other world, in which an inverse pattern indicates that population growth has gradually ceased and population size has begun to shrink. The low fertility rate has been declared a global crisis and a national security crisis in many developed societies, particularly those with extremely low total fertility rates – around one child born per woman of childbearing age, far below the replacement fertility rate of 2.1 [15–20]. Consequences include losses of adequate labor supply, consumers, and (perhaps most immediate) future taxpayers and social insurance contributors [21]. For this part of the world, the mission of population policy has become facilitating population growth, rather than containing overpopulation. Among the 192 countries, 28% wanted to facilitate the fertility rate, and 15% wanted to maintain it [13].

This situation described above takes the challenges of ethical justifications for population policy to a whole new frontier. The major ethical concern here is whether and to what extent the government could legitimately facilitate population growth. Many public debates on population policy have often skipped this section and gone directly into the tools and strategies that could facilitate procreation and build a friendly social environment for child-rearing, as if population policy that addresses low fertility rate is by itself ethical. But population policy is not just about procreation; other options might be ethically more preferable and justifiable.

Some scholarly contributions particularly focus on procreation, arguing the desire to have more children through procreation is generally unethical (or ethically not preferable), considering the impact of overpopulation on the global scale on climate change, carbon emissions, unsustainability, and global and intergenerational injustices [22–26]. While these debates are relevant to the ethics of population policy, they have not directly engaged with the broader population issue. Others suggest that the debate about (controlling the overgrown) population is no longer very relevant. Their primary concern is the ethical control of population growth and the optimum population size [27–30]. Callahan is one of the few who reminds us of the new low fertility pattern to be addressed [31].

In response to Callahan's call, this paper aims to put forth the ethical investigation of a state's population policy, the kind of policies that aim to directly intervene in limiting or facilitating of population growth. We particularly consider the arguments supporting governments' population facilitating policies – fertility-enhancing (or “pro-natalist”) and immigrants-attracting policies – to which the new world of population condition has brought ethical challenges. We argue that population policies grounded on the economy, welfare and environmental sustainability, and personal interests and rights are ethically problematic. We then establish an ethics of population policy grounded in the account of self-sustaining the body politic, which, as argued, will be applicable to the population policy in both worlds of population conditions. We conclude by discussing the implications of the self-sustaining account concerning procreative policies such as birth control and pro-natalist interventions, as well as non-procreative policies such as immigration, adoption, and unintended baby-saving strategies.

Fighting Against the Shrinking Population: On what Grounds?

A shrinking population threatens ways of life. Policymakers, politicians, and business owners have portrayed a dim future where there will be no worker, no consumer, and no taxpayer to sustain the normal functioning of the society and economy; streets will be empty of children's laughter, while homes and institutions are full of frail, senior citizens who outnumber those who can take care of them or pay for the services they need. Eventually, humans will degrade to a state of nature in which life is “solitary, poor, nasty, [and] brutish” to borrow Hobbes's words, except that life is too long rather than short. The call for population policy to enhance fertility rates is partly driven by the fear of this gloomy future of a superaged society [32]. The notion of “dependency ratio” [33], normally used as merely an indicator regarding financial stress on the productive population in most literature, precisely captures this sentiment. But the fear alone does not constitute ethical grounds for governments' interventions. Below we examine three major types of reasoning in population facilitating policies, including the arguments related to, respectively, a sustainable market, the welfare system, and respect for personal interests.

Economy

The first type is economic reasoning. Proponents suggest that population policy is ethically justifiable because the economy needs adequate workers to provide goods and services and adequate consumers to consume those goods and services, so a society's business, industry, and economy may continue to prosper. This claim is problematic in that these purposes could also be used to justify economic and industrial policies, and not necessarily population facilitating policies. In effect, this reason could better justify economic and industrial policies than population policy, when there are many other strategies to better achieve the economic purpose. For instance, on the supply side, improving technical cooperation, industrial upgrades (e.g. transforming from labor-intensive modes of production to intellectual/technological modes), and introducing automation and artificial intelligence, are potential strategies to address the problem of inadequate workers. On the demand side, promoting international trade and cooperation, targeting international consumers, and creating new demands are potential strategies to address the problem of inadequate consumers. From a consequentialist perspective, governments' economic and industrial interventions could be ethically justifiable on these grounds, but population facilitating policies could not. The essence of economic reasoning concerns means of production and consumption, not population size.

Likewise, public services such as national defense, police, firefighting, public education, and general civil services at different levels of the administration – often not provided through private markets – have the same structure of inadequate workers and consumers. To an extent, public services are indeed more labor-intensive than most industrial sectors and might suffer more from a shrinking population. While population ageing would increase the need for certain types of public service (e.g. health and social care), decreasing population would also reduce the need for other types of public service (e.g. education), hence reducing the number of workers needed by the public sector. Unlike private businesses seeking to maximize profits, the public sector needs not always maintain the same volume of services. Strategies such as enhancing overall productivity and efficiency, de-regulating or cutting off unnecessary service sectors, and reorganizing the working conditions of public service delivery might also be available to tackle the need when facing population ageing [34]. For maintaining public services, population facilitating policies are neither necessary nor preferable.

Welfare and Environmental Sustainability

The second type of reasoning concerns the sustainability of a state's health and welfare system. Proponents may suggest that pro-natalist interventions are ethically justifiable because there would be insufficient taxpayers and/or social premium contributors to sustain the existing health and welfare system, and the system is hence *financially* unsustainable. Indeed, many welfare states have encountered this problem [35, 36]. Due to the prevalent pay-as-you-go financial mechanism (especially in health and long-term care sectors), the services provided for those in need are paid by

concurrent collection of premiums and taxes. In an ageing society, this mechanism requires transfer from the working generation to the retired/aged generation.

A shrinking population may challenge the legitimacy and plausibility of the system's financial mechanism, but the real ethical question here concerns the inter- and intra-generational equity (and, to an extent, democratic decision-making) within a state [37, 38]. The sustainability problem is essentially the problem of inter-generational commitment to equitable access to welfare services and inter-generational resource allocation. Population facilitating policies could be one potential solution (by increasing the number of citizens' children or recruiting more immigrants from other countries to maintain the balanced replacement), but it is not necessarily ethically preferable over others. The answer would depend on the way in which the society conceives of a contractual commitment to the generations-to-come, who are yet to and will never be a negotiating party (e.g. whether the people of a state are really committed to a redistributive welfare scheme) [39, 40].

Moreover, the sustainability issue could also be viewed from an environmentalist perspective, in which a shrinking population is even a better and more sustainable scenario for the preservation of natural resources (from the viewpoint of future human generations) and the protection of the natural environment (from the ecological perspective if the way that human beings produce and consume is subject to no fundamental change) [41, 42]. It is one of the major ethical justifications for population control, and it still stands in the old world of population conditions where people are overcrowded. In this case, population facilitating policies are most likely to be ethically unwarranted and may even be considered unethical.

Nevertheless, anthropological and development studies have found that, under certain circumstances, population growth might be helpful for sustaining the environment through changing vegetation [43] and increasing the efficiency of agricultural production [44, 45]. The growth of the population does not necessarily have negative impacts on human well-being and environmental sustainability. Population control is not necessarily warranted for the sake of the environment, depending on the circumstances under which the policy interventions are made. However, in general terms, population growth is deemed harmful to both the environment and the welfare of future generations [12], and population facilitating policies are hence ethically problematic.

Personal Interests and Rights

The third type of reasoning concerns personal interests, particularly addressing the pro-natalist interventions of population facilitating policies. For various reasons – ranging from the desire for parenting [25], self-realization, DNA continuation, immortality [46], to the sense of responsibility to fulfil family/culture/social expectations, a proportion of individual citizens (in many cases, the majority) have great interest in procreation and child-rearing. Therefore, such proponents would argue that, due to the people's prevalent desire, the democratic government, as being held accountable by public opinion, should implement pro-natalist policies for a supportive environment for procreation and child-rearing. However, the desire to procre-

ate represents individuals' personal interests, which do not necessarily warrant state policy intervention and public resource investment.

For instance, having children might be a significant value and practice (as well as an indicator of a “successful” and “blessed” life) in certain cultures or religions, but these cultures and beliefs might teach that it is primarily a personal responsibility to pursue this value and practice (to manifest her/his diligence or faithfulness) and hence should not be pursued through others' hands. In this case, despite the public's prevalent desire to have children, it would not be considered a public affair meriting state intervention. Personal interests in procreation could be elevated to the public level through one logical pathway – the logic of democracy – in which the interests of the many are transformed into the common good, expressed by the political will of the popular sovereignty. This logic leads the ethics of population policy to the self-sustaining argument, which will be discussed later.

Some may further maintain that, at the individual level, procreation has been deemed a human right that should be respected and protected by the state. Indeed, reproductive rights have been well-recognized, by which the state should neither limit individual freedom of choice to procreate nor determine the number, spacing, or timing of childbirth [47, 48]. This was the major debate regarding the ethics of population policy in the 1970s (and indeed persists in the developing world and the regions with certain religious beliefs). Just before the COVID-19 pandemic swept the globe, world leaders from almost 180 governments adopted the Nairobi Statement on 12–14 November 2019 at the so-called Nairobi Summit, celebrating the 25th anniversary of the International Conference on Population and Development (ICPD) in Cairo. The statement, echoing what has been recognized at the Special Session on ICPD+20 of the United Nations General Assembly since 2014, reaffirms the linkages between population trends, human dignity and rights, and sustainable development. Policy documents produced by these meetings have laid out the principles and guidance concerning the protection of sexual and reproductive health and rights, including the freedom to decide when to have child [49, 50].

We agree that the rights-based approach to population and development on the implementation level is the right direction to take. The safeguarding of reproductive rights may require the state to provide a social context in which reproductive freedoms and health are respected, protected and fulfilled [51]. However, this argument would by no means lead to justifying the state's population facilitating policies.

In summary, population facilitating policies are either unnecessary, irrelevant, or even inconsistent with the economic, sustainability, or personal-interest purposes. Many more ethically preferable and plausible policies and strategies exist – such as encouraging immigration, reconceiving an inter-generational commitment through intra-generational social justice measures, and adopting a rights-based approach to a childbearing-friendly society – and could be undertaken by the government to address the economic problems, financial sustainability of welfare systems, and individual desires to procreate.

Self-Sustainability as the Ethics of Population Policy

The ethics of population policy should be grounded on the necessity of self-sustaining the body politic, or the political community, considering that a permanent population is a necessary component of a sovereign state. According to customary international law stemming from the 1933 Montevideo Convention, a permanent population is a settled group of inhabitants who are willing to live in a defined territory, another necessary component of a sovereign state [52, 53]. A population policy, therefore, whether population facilitating or limiting, is ethically justifiable only when it aims to maintain a self-sustaining body politic.

Two presumptions of this self-sustaining account demand further explanation. First, the account holds the worldview that a sovereign state is a form of political community with particular ethical significance. Across human history, there have been many forms of political community. Nevertheless, today sovereign states are taken as the legitimate unit of international interaction and have absolute political authority over the inhabitants within their territories. Therefore, if a political community intends to implement population policy, it must come from, or at least permitted by, a sovereign state. That is, governments may implement population policies at different levels within relevant jurisdictions, but all of them are legitimate and legally permissible only when they are constitutional at the national level, which is the focus of this article.

Second, the self-sustaining account assumes that a popular sovereignty, similar to an individual human, has the intention to survive. But different from a human, whose flesh and bone are doomed to perish in decades or fewer in a natural setting, theoretically, without external interference, a popular sovereignty could live and prosper until the end of time, given the intention to do so.¹ Assume a majority of citizens have transformed their personal interests in procreation into a common good to be pursued by the body politic (say, through democratic procedures). In that case, their interests are no longer personal but communal, aligned with the body politic's intention to survive. Following this democratic logic, the population policy would be deemed the exercise of the popular sovereignty's political will to sustain its own continuous existence over an unspecified future period of time. This political will may desire expansion, maintenance of current size, or eventual minimization, depending on the specific context in which the body politic is dwelling, and accordingly requiring different forms of population policy.

With this understanding, one could deduce that the genuine ethical ground for population policy is the need to self-sustain the body politic by maintaining an existing and active population that could self-govern and pursue a common good, which could not be done through other forms of political community. Self-sustaining as the ultimate common good of the body politic is the only legitimate purpose to ethically justify a population policy for its intrinsic value, not merely for its instrumental value for other economic, sustainability, and personal purposes.

¹ We do recognize that there is a possibility (theoretically and *historically*) that a democratic body politic may commit self-termination, or suicide, in a metaphoric sense. However, this issue is beyond the scope of this paper. Here we assume that a democratic body politic naturally has the intention to live.

A population policy grounded on self-sustaining the body politic does not necessarily facilitate or limit a population, and is not necessarily related to procreative behaviors. Its nature depends on the context of the particular sovereign state. Thus, this account is more inclusive than those that only consider population control (primarily in the old world) and applicable to both old and new worlds of population conditions: in one, overpopulation remains the major issue, while in the other, people are concerned about extreme low fertility. Under either circumstance, the sole purpose of population policy should be maintaining a body politic that can self-sustain.

Whether a population policy intervention is ethically warranted could be examined according to the extent to which it pursues the common good of sustaining the survival and well-being of the body politic by and through itself, namely, maintaining a permanent population. What exactly, then, would such self-sustainability require? Below we propose several testing criteria.

1. *Survival.*

This criterion requires a balanced population structure that could be sustained under the natural and social environments of the specific sovereign context, and could be reasonably projected as being stable over an unspecified future time period. Note that “balanced” and “stable” here do not necessarily have to do with maintaining a specific population size (e.g. an optimal population size that many demographers and population ethicists are seeking) or level of social development.

This criterion is minimalist. Its fulfilment depends on the resources, technological conditions, reasonably expected living standards, international and geopolitical relations, and other factors of the state in question.

2. *Replacement.*

According to the projected survival criterion, a suitable replacement rate could be estimated, and the citizenry, theoretically, will be responsible for fulfilling this rate. In the depopulated world, this fulfilment should be pursued through procreation or other means. For example, immigration (facilitating the influx of young and potential future citizens from other states) and domestic/cross-border adoption (saving unwanted/unaffordable babies) might also be considered.

In addition, those citizens who do not (including those who cannot and those who do not wish to) procreate may have to fulfil their obligation by making extra financial contributions to fellow citizens who procreate more children than required by the suitable replacement rate, to the accommodation and assimilation of new immigrants, or to the public rearing service for abandoned children. The process of financial transfers between the contributors and the children-rearers should be overseen or operated by the government or its delegation. The contribution would be compulsory as it is an obligation of citizens; however, it would be made at the aggregate level, such as through earmarked-taxes. There would be no direct relationship between individuals in both parties.

Similar to the survival criterion, the replacement criterion is also minimalist. Therefore, in the overpopulated world, where the actual replacement rate is probably

way above the suitable rate, the replacement criterion would require that the government implement migration control and procreation control measures to reduce the population growth to the suitable replacement rate so that the sustainability of the state would not be threatened.

3. *Accountability.*

The government bears the responsibility to coordinate both procreative and non-procreative strategies and estimate whether the net results meet the suitable replacement rate. The government must, on the one hand, implement the policy accordingly to ensure that all citizens are able to do and have done their part, and on the other hand, be responsible for creating an environment in which citizens have the capability to procreate and rear the number of children obligated by the replacement criterion (in the depopulated world) or to control procreation through effective technologies, health services, and other broader socio-economic conditions (in the overpopulated world).

Note that, although a society may evaluate and judge one's ability based on the standards of a capitalist labor system, the citizens' capability to procreate indicates the necessary conditions for one to achieve the goal (thus requiring a state to provide support when the conditions are not met). Therefore, such capability is not and should not be taken as implying any relevance to eugenics and/or the ableist perspective on parenting at all.

4. *Solidarity.*

All the criteria and consequent obligations above are justified by the solidarity shared by citizens of the state, meaning that they all recognize each other's equal status as a member of the state, a constitutive part of the body politic, and they all recognize the survival of the body politic as a relevant respect for which they will carry the costs [54]. For this criterion to be met, the state would probably have to be democratic to make citizens, would-be citizens (immigrants), and future citizens (underage and yet-to-be born) share a genuine sense of solidarity that is not otherwise imposed by a ruler with arbitrary power over citizens.

For example, immigrants, who intend to become part of the body politic (or otherwise who would not relocate to the country or may choose to consciously live there as an alien rather than an immigrant), desire to be naturalized and thus be taken into account in population policymaking. Self-sustaining the body politic is an obligation that all current and future members of the said population collectively and voluntarily impose upon themselves.

In sum, these four criteria could be used to examine the ethical legitimacy of a population policy and justify a government's interventions, including the exercise of regulatory power and resource allocation. Nevertheless, this is by no means an exhaustive list of the criteria for the necessity to self-sustain, and case studies in various contexts may further furnish the theory proposed here.

Discussion

This paper has delineated a new frontier of ethical debates over population policy and population ethics. Two worlds of population conditions have been observed. One still plays the old tune of overpopulation; the other suffers from low fertility and inadequate population replacement. As the ethics of population policy in the latter world is left undertheorized, the paper proposes an ethics of population policy grounded on the account of self-sustaining the body politic. The account has brought a more comprehensive consideration than existing arguments on population problems in both worlds. As scholars have rightly plotted, according to the simulations based on demographic theories, the future of the human population lies in either some fertility-related homeostatic mechanisms to contain the over-grown population, or the requirement of a minimal population size to maintain the technological levels and living standards, which might involve coercive government redistribution of resources [55]. The self-sustaining account echoes this observation and offers an ethical ground for it.

Regarding the financial arrangement of the self-sustaining account, we hold an interpretation different from Olsaretti's, which suggests that the costs and benefits of the future population should be shared equally among every person [56]. The self-sustaining account requires that each citizen has an obligation to pursue a suitable replacement rate. Therefore, those without children or with a number of children less than the suitable replacement rate would have more financial responsibility to provide for the children.

As for how to justify the coercive financial redistribution for child-rearing, we concur with Conly's argument that the collective moral responsibility to prevent great harm to a group of people cannot be divided into each individual. Conly maintains that the great harm brought about by climate change, and threats to the environment and human well-being, should be prevented by morally responsible actions of refraining from overprocreation. Although a person giving birth may bring only limited and insignificant harm, in the overpopulation context, however, that person would still not be immune from the government's coercive intervention in procreation control [11]. Similarly, we hold that, in a state in the depopulated world, every citizen has the moral responsibility to prevent the harm of not sustaining the body politic, even if the inaction of each individual would not have a significant impact on the whole picture. The government's coercive intervention in financial redistribution is therefore warranted. Likewise, in a state of the overpopulated world, every citizen has the moral responsibility to finance the population control policies.

Note that, however, the self-sustaining account has one assumption that is very different from the others': the boundary of the population of interest. The boundary of the self-sustaining account is a sovereign state that, by default, intends to survive. The boundary drawn by most population ethicists is often set on an abstraction of human society on earth (or a closed society of human). The various understandings of the political world are embedded in the different assumptions of boundary: one of the parochial, and the other of the cosmopolitan. Our proposal for a state's population policy to be based on the self-sustaining account is thus a parochial approach to the boundary question.

The self-sustaining account offers useful insights into health and social policy reforms. First, it enables us to examine the legitimacy of population policies, including procreative/reproductive policies and immigration policies, and the purposes they declare to pursue. In the depopulated world, for instance, the economic problems due to an inadequate labor force or consumers should not be considered a concern of population policy. Similarly, financially unsustainable social insurance schemes or welfare programs should be reformed on their own terms, not in the name of a low fertility rate or aged population. Namely, at times the policy reforms that draw on a transformation of population condition cannot really serve as an ethical basis for population policy. The childcare system, however, may be related to population policy, for it directly influences the conditions within which citizens procreate and raise children. Furthermore, stronger procreation and children-rearing resource redistribution between those *with* and *without* children may be warranted to support the former and hold the latter accountable.²

In the overpopulated world, the self-sustaining account would concur with most of the proponents of population control, as long as the control is necessary for the state to sustain its survival. For instance, if the population growth has started to deplete the natural environment of a state and the reasonably expected living standards of the people, then the government's coercive measures that limit procreation choices may be justified on the ground of the self-sustaining account. In this light, our argument, to some extent, concurs Conly's proposal, which aims to prevent the great harm due to overpopulation in general [11]. However, ours is to preserve a sovereign state's self-sustainability.

Second, policymakers might want to consider every possible means to pursue a suitable replacement rate. There are sophisticated options for the overpopulated part of the world – from contraceptive technologies to transformative social reforms. For the depopulated part, in addition to pro-natalist interventions, other non-procreative strategies deserve more attention than they currently receive. Immigration policy, which is now a practical strategy adopted by many governments, should be made more welcoming and inclusive and linked to population ethical concerns [26]. Adoption should also be more strongly encouraged, especially cross-border adoptions (which could be viewed as a form of immigration). A social arrangement called “baby hatch” has been set up by charity-based organizations or hospitals in several countries, but it is often seen as a safety net and the last resort for child welfare protection [57]. The government may consider formalizing this arrangement, establishing a national institution to adopt and rear unwanted children, those who would otherwise be abandoned after birth or aborted before they are even born [58]. This arrangement could potentially maximize the number of children available and minimize the moral burden on the children's birth mothers or parents. Other creative means and their effectiveness could be further explored in future research.

² Note that only about half of the population potentially have reproductive capacities, including cisgender women and some transgender men. A hierarchy of respectability and recognized citizenship might come to exist between people who do not have reproductive capacities, people who do but do not procreate, and people who do and procreate. Thus, the government should make all efforts to prevent gender-based prejudices and stigmatizing effects of the resource redistribution and coercive birth-control measures, both discursively and practically.

The self-sustaining account alone cannot offer an optimum population size or replacement rate for a specific state. This task will be subject to further empirical estimations and projections. While the ethical reasoning proposed here may be applicable in both worlds of population conditions, its scope is limited to the jurisdiction of a given sovereign state. Therefore, our proposal may not satisfactorily address some questions. For example, what is the extent to which disparities between states are unjust? On this matter, do the citizens of one state have relevant obligations towards citizens of other states, and if so, what are those obligations, and how could they be fulfilled? Or, more concretely, should population policy prefer immigration and cross-border adoptions over citizens' own procreation? Further ethical analyses are needed. Nevertheless, we consider that the necessity of a permanent population for a state to survive may be consistent with these international – or global – obligations demanded by global justice and other imperatives.

Declarations

Competing Interests None declared.

References

1. Callahan, D. (1972). Ethics and Population Limitation. *Science*, 175(4021), 487–494.
2. Dyck, A. J. (1973). Procreative Rights and Population Policy. *The Hastings Center Studies*, 1(1), 74–82. <https://doi.org/10.2307/3527475>.
3. Robertson, J. A. (1983). Procreative Liberty and the Control of Conception, Pregnancy, and Child-birth. *Virginia Law Review*, 69(3), 405–464. <https://doi.org/10.2307/1072766>.
4. Chang, M. C., Freedman, R., & Sun, T. H. (1987). Trends in Fertility, Family Size Preferences, and Family Planning Practices in Taiwan, 1961–85. *Studies in Family Planning*, 18(6), 320–337. <https://doi.org/10.2307/1966599>.
5. Rosenfield, A. (1977). The Ethics of Supervising Family Planning in Developing Nations. *The Hastings Center Report*, 7(1), 25–29. <https://doi.org/10.2307/3561023>.
6. Blake, J. (1969). Population Policy for Americans: Is the Government Being Misled? *Science*, 164(3879), 522–529.
7. Jaffe, F. S. (1973). Health Policy and Population Policy—A Relationship Redefined. *American Journal of Public Health*, 63(5), 401–404. <https://doi.org/10.2105/AJPH.63.5.401>.
8. Ayala, T., & Caradon, L. (1968). Declaration on Population: The World Leaders Statement. *Studies in Family Planning*, 1(26), 1–3. <https://doi.org/10.2307/1965194>.
9. Cairo Declaration on Population and Development (1994). Cairo United Nations Population Information Network.
10. Andersson, H., Brandstedt, E., & Torpman, O. (2021). Review article: the ethics of population policies. *Critical Review of International Social and Political Philosophy*, published online: February 10, 2021. <https://doi.org/10.1080/13698230.2021.1886714>.
11. Conly, S. (2022). Overpopulation and Individual Responsibility. In G. Arrhenius, K. Bykvist, T. Campbell, & E. Finneron-Burns (Eds.), *The Oxford Handbook of Population Ethics*. Oxford University Press.
12. Conly, S. (2021). The Challenge of Population. In S. M. Gardiner (Ed.), *The Oxford Handbook of Intergenerational Ethics*. Oxford University Press.
13. Kolk, M., Arrhenius, G., Fairbrother, M., & Roussos, J. (2022). *Global population growth (ifss policy paper 2022:1)*. Stockholm, Sweden: The Institute of Future Studies.
14. Bongaarts, J., & Sinding, S. (2011). Population Policy in Transition in the Developing World. *Science*, 333(6042), 574–576. <https://doi.org/10.1126/science.1207558>.

15. Wong, T., & Yeoh, B. S. (2003). Fertility and the Family: An Overview of Pro-natalist Population Policies in Singapore. *Asian Metacentre Research Paper Series*. no. 12.
16. Morgan, S. P. (2003). Is Low Fertility a Twenty-First-Century Demographic Crisis? *Demography*, 40(4), 589–603.
17. Yang, W. S. (2019). *Evaluating the Impact of Taiwan's Fertility Policy*. Taiwan Insight. <https://taiwaninsight.org/2019/03/29/evaluating-the-impact-of-taiwans-fertility-policy/>.
18. Adamson, D. M., & DaVanzo, J. (1997). *Russia's Demographic 'Crisis': How Real Is It?* RAND Corporation.
19. Eun, K. S. (2007). Lowest-low Fertility in the Republic of Korea: Causes, Consequences and Policy Responses. *Asia-Pacific Population Journal*, 22(2).
20. Gallagher, J. (2020). Fertility Rate: 'Jaw-dropping' Global Crash in Children Being Born. BBC.
21. Ezech, A. C., Bongaarts, J., & Mberu, B. (2012). Global population trends and policy options. *The Lancet*, 380(9837), 142–148. [https://doi.org/10.1016/S0140-6736\(12\)60696-5](https://doi.org/10.1016/S0140-6736(12)60696-5).
22. Conly, S. (2005). The Right to Procreation: Merits and Limits. *American Philosophical Quarterly*, 42(2), 105–115.
23. Rulli, T. (2016). The Ethics of Procreation and Adoption. *Philosophy Compass*, 11(6), 305–315. <https://doi.org/10.1111/phc3.12330>.
24. Cafaro, P. (2012). Climate ethics and population policy. *WIREs Climate Change*, 3(1), 45–61. <https://doi.org/10.1002/wcc.153>.
25. Rieder, T. N., & Procreation (2015). Adoption and the Contours of Obligation. *Journal of Applied Philosophy*, 32(3), 293–309. <https://doi.org/10.1111/japp.12099>.
26. Earl, J., Hickey, C., & Rieder, T. N. (2017). Fertility, immigration, and the fight against climate change. *Bioethics*, 31(8), 582–589. <https://doi.org/10.1111/bioe.12374>.
27. Narveson, J. (1973). Moral Problems of Population. *The Monist*, 57(1), 62–86.
28. Dasgupta, P. (2019). *Time and the Generations: Population Ethics for a Diminishing Planet*. Columbia University Press.
29. Bok, S. (2010). Population and Ethics: Expanding the Moral Space. In J. S. Fishkin, & R. E. Goodin (Eds.), *Population and Political Theory* (pp. 5–20). West Sussex, UK: Blackwell.
30. Sinding, S. W. (2000). The Great Population Debates: How Relevant Are They for the 21st century? *American Journal of Public Health*, 90(12), 1841–1845. <https://doi.org/10.2105/AJPH.90.12.1841>.
31. Callahan, D. (2009). Ethics and Population. *Hastings Center Report*, 39(3), 11–13. <https://doi.org/10.1353/hcr.0.0142>.
32. Baba, S. (1993). The super-aged society. *World Health*, 46(3), 9–11.
33. The Global Health Observatory. (Accessed December 2 2021). Dependency ratio. <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/3441>.
34. Pilichowski, E., Arnould, E., & Turkisch, E. (2007). Ageing and the Public Sector. *OECD Journal on Budgeting*, 7(4), 1–40. <https://doi.org/10.1787/budget-v7-art23-en>.
35. Liarpoulos, L., & Goranitis, I. (2015). Health care financing and the sustainability of health systems. *International Journal for Equity in Health*, 14(1), 80. <https://doi.org/10.1186/s12939-015-0208-5>.
36. Gusmano, M. K., & Okma, K. G. H. (2018). Population Aging and the Sustainability of the Welfare State. *Hastings Center Report*, 48(S3), S57–S61. <https://doi.org/10.1002/hast.915>.
37. Yeh, M. J. (2020). Discourse on the idea of sustainability: With policy implications for health and welfare reform. *Medicine Health Care and Philosophy*, 23, 155–163. <https://doi.org/10.1007/s11019-019-09937-z>.
38. Folbre, N. (1994). Children as Public Foods. *The American Economic Review*, 84(2), 86–90.
39. Burke, E. (1790). Reflections on the Revolution in France. <https://socialsciences.mcmaster.ca/econ/ugcm/3ll3/burke/revfrance.pdf>. Accessed 5 January 2022.
40. Judt, T. (2011). *Ill Fares The Land: A Treatise On Our Present Discontents*. Penguin UK.
41. Lutz, W. (2017). How population growth relates to climate change. *Proceedings of the National Academy of Sciences*, 114(46), 12103–12105. <https://doi.org/10.1073/pnas.1717178114>.
42. Scovronick, N., Budolfson, M. B., Dennig, F., Fleurbaey, M., Siebert, A., Socolow, R. H., Spears, D., & Wagner, F. (2017). Impact of population growth and population ethics on climate change mitigation policy. *Proceedings of the National Academy of Sciences*, 114(46), 12338–12343. <https://doi.org/10.1073/pnas.1618308114>.
43. Fairhead, J., & Leach, M. (1996). *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic*. Cambridge, UK: Cambridge University Press.
44. Tiffen, M., Mortimore, M., & Gichuki, F. (1994). *More People, Less Erosion: Environmental Recovery in Kenya*. John Wiley & Sons Ltd.

45. Boserup, E. (1965). *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population pressure*. Routledge.
46. White, F. C. (1989). Love and Beauty in Plato's Symposium. *The Journal of Hellenic Studies*, 109, 149–157. <https://doi.org/10.2307/632038>.
47. Proclamation of Tehran (1968). Tehran: International Conference on Human Rights.
48. The Convention on the Elimination of all Forms of Discrimination Against Women (1979). New York City: United Nations General Assembly.
49. UNFPA. (2020). *Accelerating the Promise: The report on the Nairobi Summit on ICPD25*. ICPD Secretariat.
50. UN. (2014). Commission on Population and Development: Report on the forty-seventh session (April 26, 2013 and April 7–11, 2014) (Economic and Social Council Official Records E/2014/25, E/CN.9/2014/7).
51. United Nations Committee on Economic, Social and Cultural Rights (CESCR). (2016). General Comment No. 22 (2016) on the right to sexual and reproductive health (article 12 of the International Covenant on Economic, Social and Cultural Rights).
52. Convention on Rights and Duties of States adopted by the Seventh International Conference of American States. (1933). Montevideo.
53. Crawford, J. R. (2007). *The Creation of States in International Law*. Oxford University Press.
54. Prainsack, B., & Buyx, A. (2017). *Solidarity in Biomedicine and Beyond*. Cambridge: Cambridge University Press.
55. Kolk, M. (2019). Demographic Theory and Population Ethics – Relationships between Population Size and Population Growth (Working Paper 2019:11). Stockholm, Sweden: The Institute for Futures Studies.
56. Olsaretti, S. (2019). Egalitarian Justice, Population Size, and Parents' Responsibility for the Costs of Children. In G. Arrhenius, K. Bykvist, T. Campbell, & E. Finneron-Burns (Eds.), *The Oxford Handbook of Population Ethics*. Oxford University Press.
57. Asai, A., & Ishimoto, H. (2013). Should we maintain baby hatches in our society? *BMC Medical Ethics*, 14(1), 1–7.
58. Yeh, M. J. (2023). Saving unwanted children: a proposal for a National Rearing Institute. *Theoretical Medicine and Bioethics*, published: May 3, 2023. <https://doi.org/10.1007/s11017-023-09621-7>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.