EnviroConvergeBlog 04 Considering global and national population size as important variables.

Introduction

An overview of Gaps and inconsistencies in the current mainstream environmental discussion have been identified in the EnviroConvergeBlog 01. These gaps potentially affect the optimism or pessimism that adults and students may feel for the future of the environment over the next twenty years. This Blog (EnviroConvergeBlog 04) expands on the third of these environmental gaps, being that relating to Considering global and national population size as important variables.

Citation references, Paragraph and Section references are those contained in the PhD Thesis "Values and science in contemporary education: The study and impact of student orientation." The Thesis document is available in the University of Newcastle repository, here: http://hdl.handle.net/1959.13/1501410 (and then by clicking on Attachment01).

Discussion

3.2.1.3 Environmental Gap 3. Considering global and national population size as important variables.

Maslow's needs - Physiological.

Sustainable Development Goal (SDG) - 1. No poverty 2. Zero hunger

Forecast World Population

The current (December 2022) world population is in excess of 8 billion, with a UN forecast median of approximately 10.4 billion by the year 2100. The forecast 95% probabilistic range for 2100 is a high of approximately 12.4 billion and a low of approximately 8.9 billion persons (United Nations Department of Economic and Social Affairs - Population Division, 2022). An alternative year 2100 population forecast is provided by Vollset et al. (2020) which includes a predicted value of 8.79 billion with a 95% Uncertainty Interval high of 11.8 billion and low of 6.83 billion. The lower forecast of Vollset et al. (2020) utilises a decreasing reproductive rate as a function of the number of years of education. This beneficial education-years relationship can serve as a reference tool in the design of birth reduction programs.

Population imbalance

The concept of overpopulation is a social construct charged with politics and ideology, and is a contentious idea which is the subject of much debate (Foley & Hendrixson, 2011). Currently, some feminists challenge population control practice as alarmist when utilised in sustainable development and climate change policy and programs. The linking of population reduction with climate change adaptation and mitigation and the survival of the planet is considered to be Malthusian, leading to exclusion and violence (Hendrixson et al., 2019). In Australia, in the environmental narrative, minimal discussion exists regarding global population as a variable in the determination of environmental solutions. However, the discerning popular grey media such as Dyke (2015) in the Conversation has raised questions such as "feeding the next four billion." Similarly, Alexander (2016) in the Conversation expresses that "the existing economy is already environmentally unsustainable." In Nigeria, the most populous nation in Africa, some are expressing concern that the current population trends will result in environmental degradation, with impacts on hunger, poverty and food security (Jack, 2017).

From a macro system view of the available literature, it can be deduced that the additional stress of up to 40% increase in world population will further stress the limits of food production and environmental protection. However, discussion of world and national population size is largely absent in global forums. Of utmost relevance to the future of today's students, this absence is exemplified in PISA, which is the OECD triennial global survey of 15-year-old students. In the year 2015, the PISA 2015 survey contained approximately 600 data Items, focussed on science, reading and mathematics, with a materialistic economic development theme. The survey contained seven self-reported questions regarding awareness of environmental issues and seven environmental questions with an attitudinal (optimism/pessimism) response (OECD, 2017b); (Thomson et al., 2017b). However, questions regarding population size were non-existent in PISA 2015, nor by inspection, were they present in the 2006, 2009, 2012 or 2018 PISA surveys.

More recent population forecasts by Lutz, Goujon, Samir KC, Marcin Stonawski, and Stilianakis (2018) and by Vollset et al. (2020), show a softening in the total population maximum under assumed moderate scenarios, with the population of developed nations suffering significant long-term decline. However, in all scenarios the population of the Sub-Saharan group of nations shows more than a doubling of growth. This population growth will

place extreme stress on the wildlife population of Sub-Saharan Africa which is an extremely significant terrestrial wildlife domain of planet Earth (Kiss, 1990).

Conclusion

Recommended action regarding Environmental Gap 3

Given the secular and religious sensitivity of the population topic, I propose that discussion of issues such as global population size, individual national population and population migration between nations is required involving a comprehensive range of stakeholders including feminist representatives, in the environmental debate, with the aim of achieving optimal environmental protection solutions. This action is further documented in Sections 7.2.5 and 7.5.1ii.

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Additional readings

Currently, population demographics is a volatile subject. Accordingly, the below reference provides an insight into relevant difficulties.

Lee. R. (2024). Forecasting population in an uncertain world: Approaches, new uses, and troubling limitations. *Population and Development Review*. https://doi.org/10.1111/padr.12674