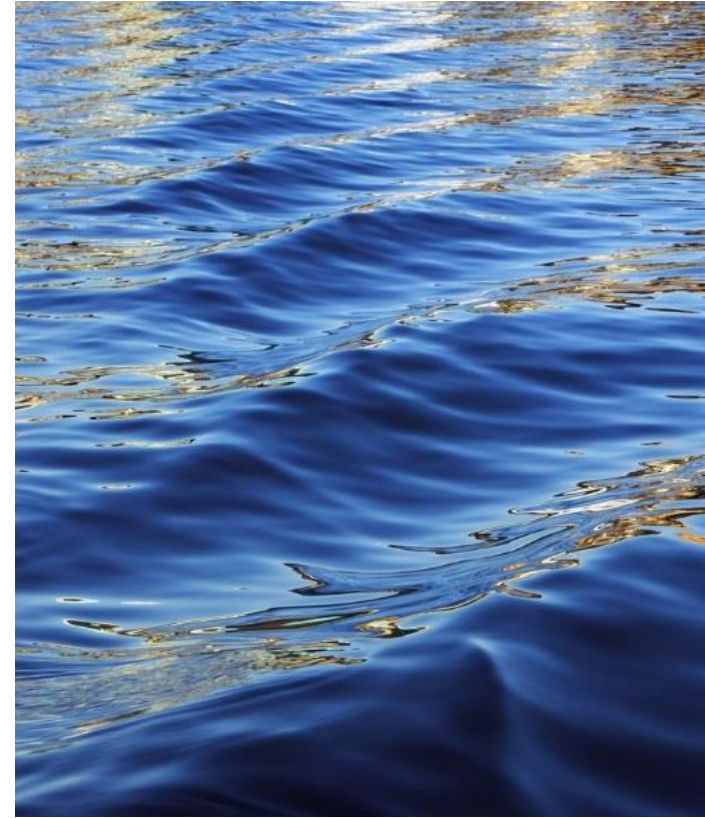
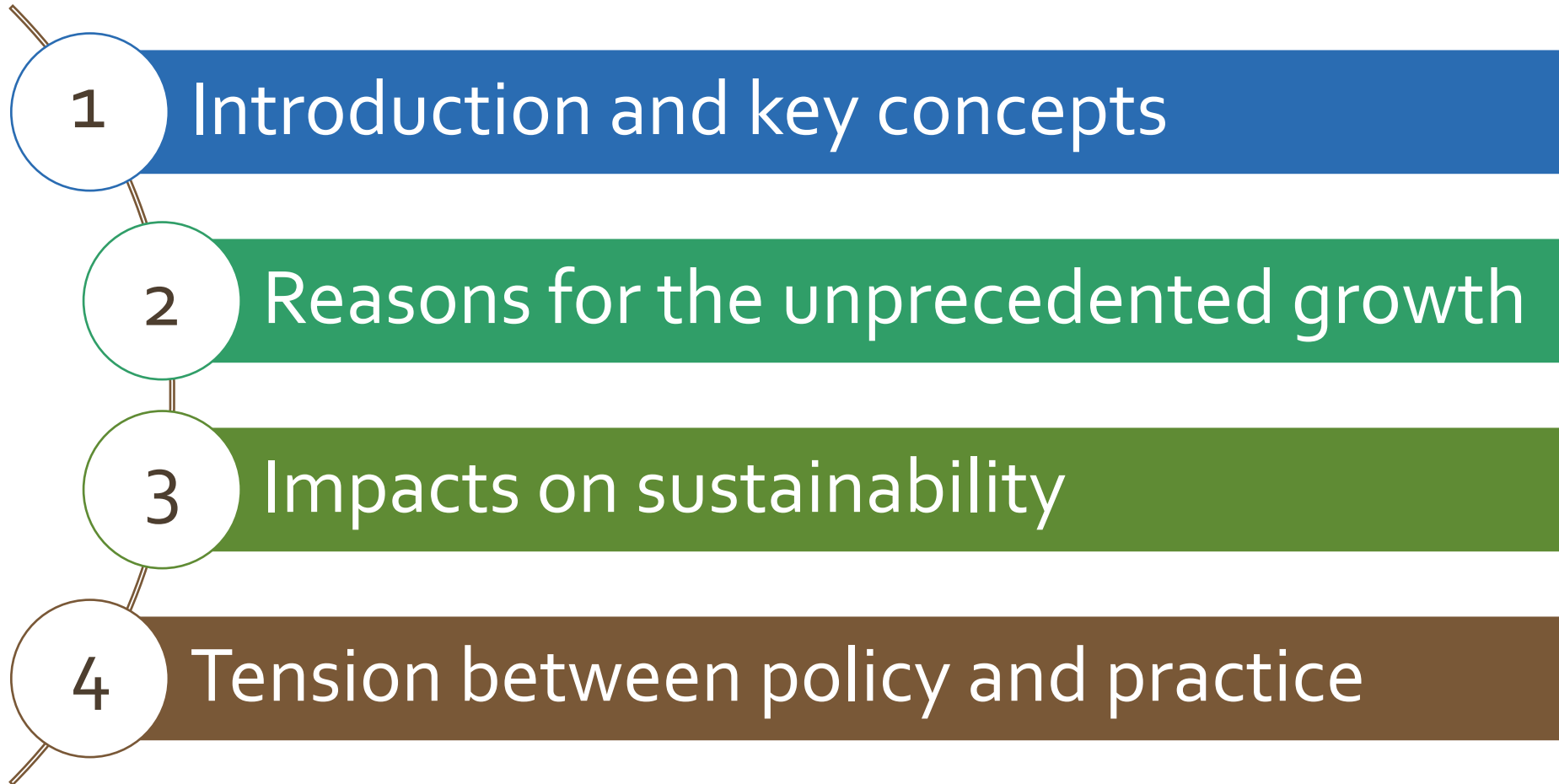


Impacts of Rapid Population Increase on Sustainability and Tensions between Policy and Practice

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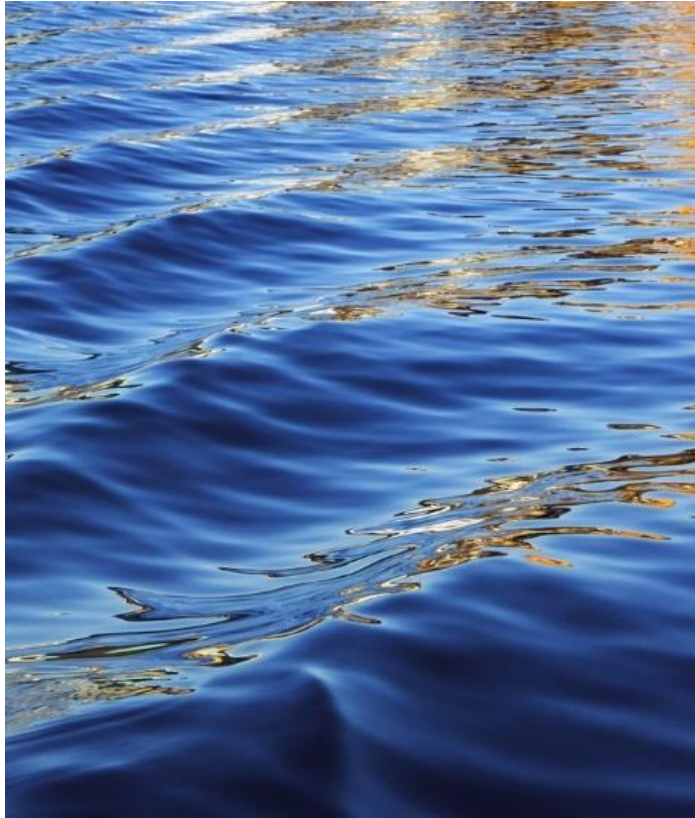


Content





Introduction and key concepts

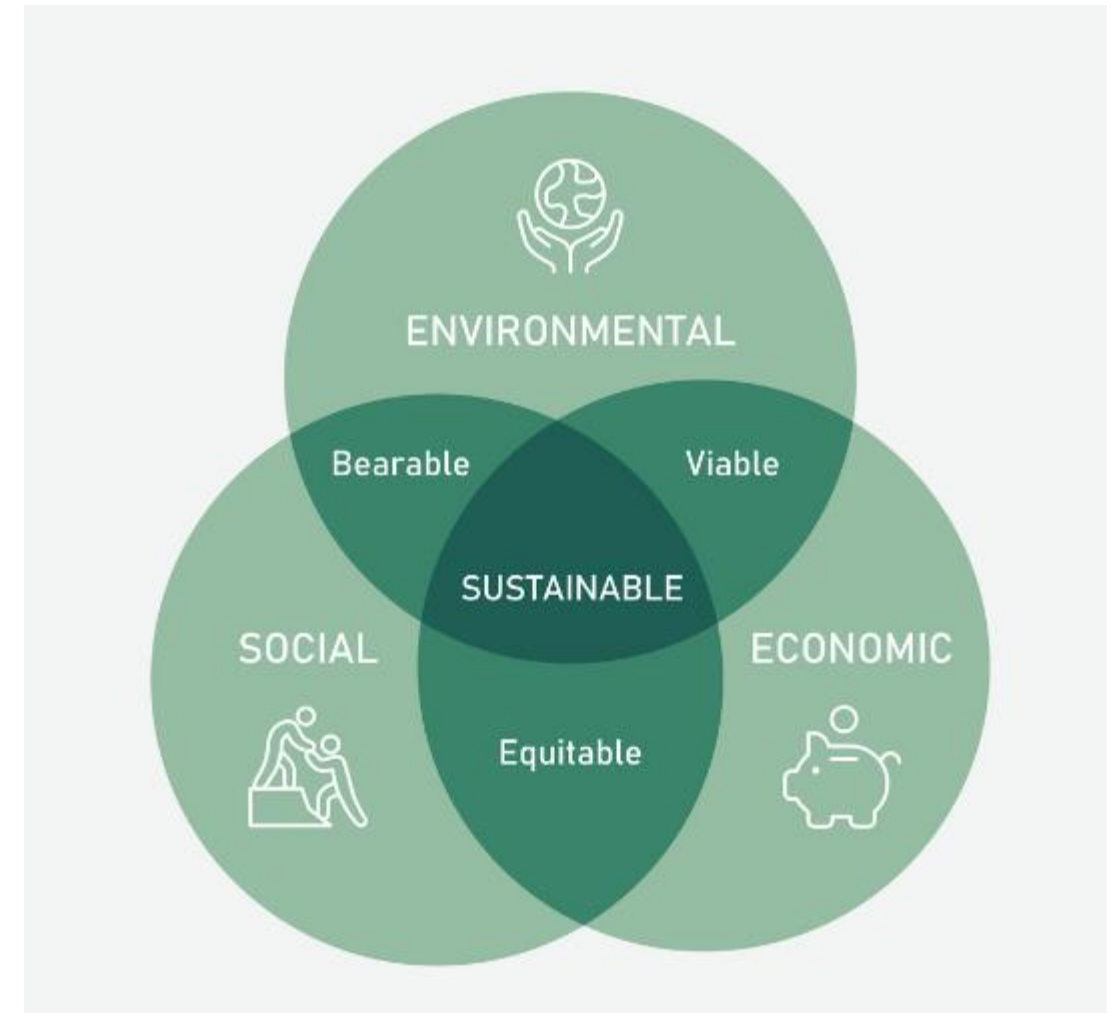


What is sustainability?

- Sustainable development 'is development that meets the needs of the present without compromising the ability of future generations to meet their own needs'

(Brundtland Commission, 1987;
Agyeman, 2005, p. 42).

- The connections between economic, social, and environmental dimensions (Baker, 2006, p. 19).
- Guided by good governance (Robertson, 2017, p. 44).



Mari/Shutterstock (2019)

Carrying capacity

- Definition: 'The number of individuals of a certain species that can be sustained indefinitely in a particular area'
- margin of the environmental resources vital to human life.
- The Earth's carrying capacity has been expanded for humans, while humans negatively affect other species' carrying capacity

(Rees, 2013; Robertson, 2017, p. 44).

- **Discourse:** Some scholars argue the carrying capacity has been reached, while others believe 'the Earth can support more people' (Geores, 2001).



- Various places recording rapid population growth have reached the carrying capacity (Hite *et al*, 2021, p. 94)
- Evidence: desertification (Nunez, 2019); cyclones triggered by human activities (UN, 2021)



The human mind is the Earth's ultimate resource, and "more is better"

(Simon, 1981)

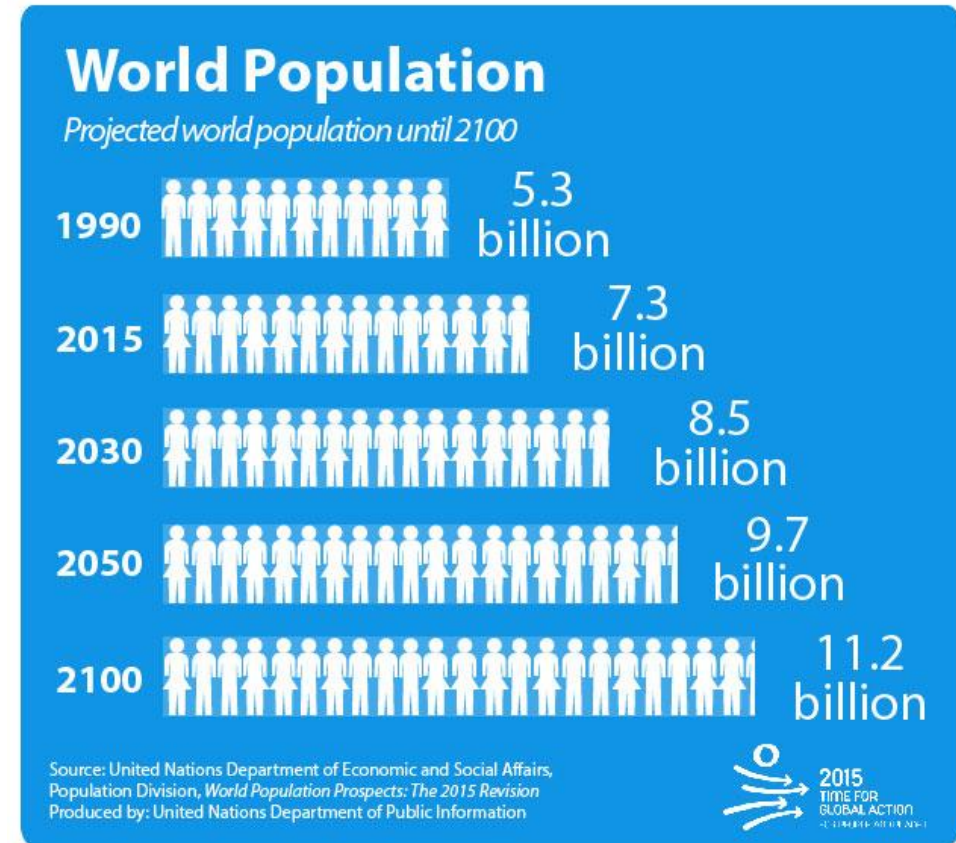


Rapid population increase

- Concern about sustainability and 'resource scarcity' triggered by population rise was raised by Malthus and thinkers in the 18-19th centuries (Baker, 2006, p. 18).
- 'Less wealthy countries of India, China and some African nations' are likely to record the fastest population increase (Hite *et al*, 2021, p.58-61).
- 'Overpopulation' is believed to be a major cause of 'poverty and environmental degradation' in developing economies (Petrucchi, 2000).

World's population sees unprecedented growth rate

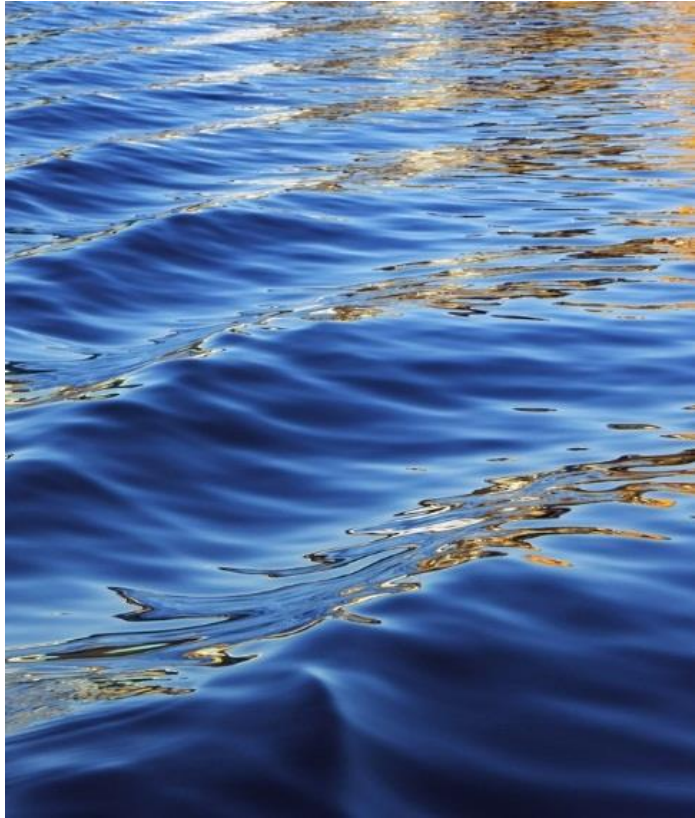
- From just a billion in the early 19th century to 6 billion at the turn of the 21st century (Hess, 2016, p. 53).
- UN: Global population projected to reach about 10 billion by 2050 and 11.2 by 2100 (Hite *et al*, 2021, p. 92).



(UN Department of Public Information, 2015)



Reasons for the unprecedented population explosion



Global scale

Industrial Revolutions:

- Increased food supplies, nutrition; producing capacity;
- Economic growth
(Hite *et al*, 2021, p. 67).

'Genetic':

- Lower lethality of diseases;
- Human's immunities improve
(Hess, 2016, p. 63).

Longer life expectancies:

- Public health measures (clean water, food safety, hygiene, etc.).
- Vaccination (Hess, 2016, p.64; Hite *et al*, 2021, p56-67).

Lack of education and economic chances for women

- 'Child bearing and rearing' are more common among women without education (Götmark and Andersson, 2020).
- Education bolsters 'delayed marriages, contraception knowledge' and women's career and societal role (Hite *et al*, 2021, p. 80; Robertson, 2017, p. 49).

National level

- Human capital is viewed as a cornerstone for economic sustainability and poverty alleviation (Hess, 2016, p. 464).
- Parents may prefer having more workers and caretakers (Hite *et al*, 2021, p. 73).
- Sons are traditionally preferred economic assets among families (Hess, p. 458), plus the financial and social disadvantages of having daughters (Hite *et al*, 2021, p. 70-71).
- United Nations Department of Economic and Social Affairs (DESA): '8 billion strong – infinite possibilities for people and planet'



(UN DESA, 2022)

Most populated countries

CHINA

- Total fertility rate fell to 1.5 in 2010 from 5.5 recorded in 1970 (Wright and Boorse, 2011, p. 240) with the one-child family policy.
- The policy ended in 2015 (Robertson, 2017, p. 50) as the country adopts 'neoliberal ideology' (Zheng, 2016; Weber, 2020).

INDIA

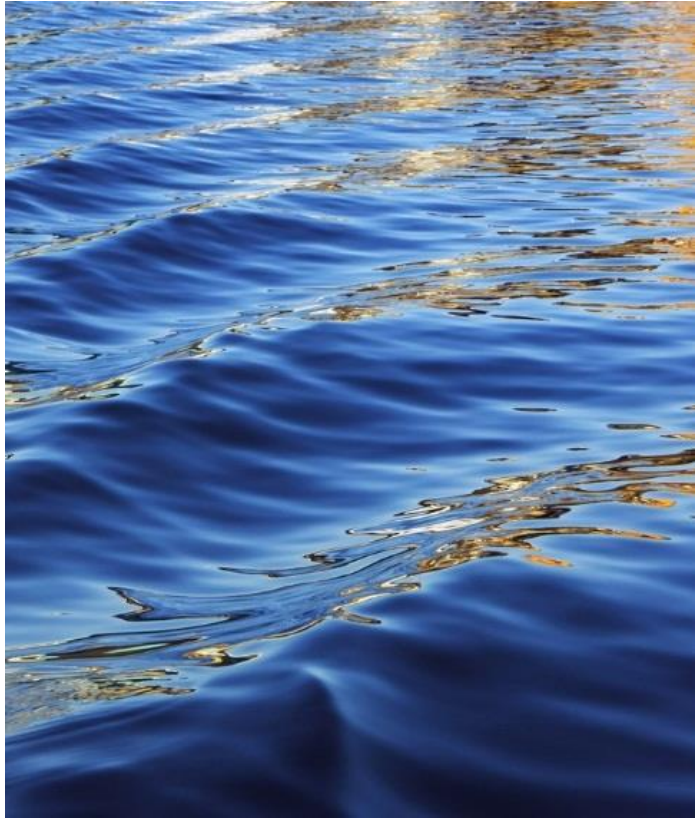
- Insignificant changes seen in family planning programmes;
- Population grows by about 15 million per year, taking the lead in the global scale

(Hite *et al*, 2021, p. 89).

Both nations are home to **over 1 billion people**, each representing about **18 percent** of the global population (UN, no date).



Impacts on sustainability



Human impacts



(Graham/IRIN, 2009)

- Current era could be called 'Anthropocene': Humans have been 'the single most influential species', creating major environmental impacts;
- Ongoing debate concerning 'the Anthropocene'. However, it is used in different 'cultural and scientific contexts' by scientists and politicians.
(Pavid, no date).
- More than 70% of Earth's land has been 'directly altered' due to humans' agricultural activities (Belgum, 2019; Rossi, 2020).

Since the 1970s:

- Numerous human activities have caused decline of nature and the impacts worsened (Diaz *et al*, 2019; Begum, 2019).
- Consumption per capita has seen a surge by 45% (Begum, 2019).
- These activities deal major blows to land and freshwater ecosystems (Kazmeyer, 2018).

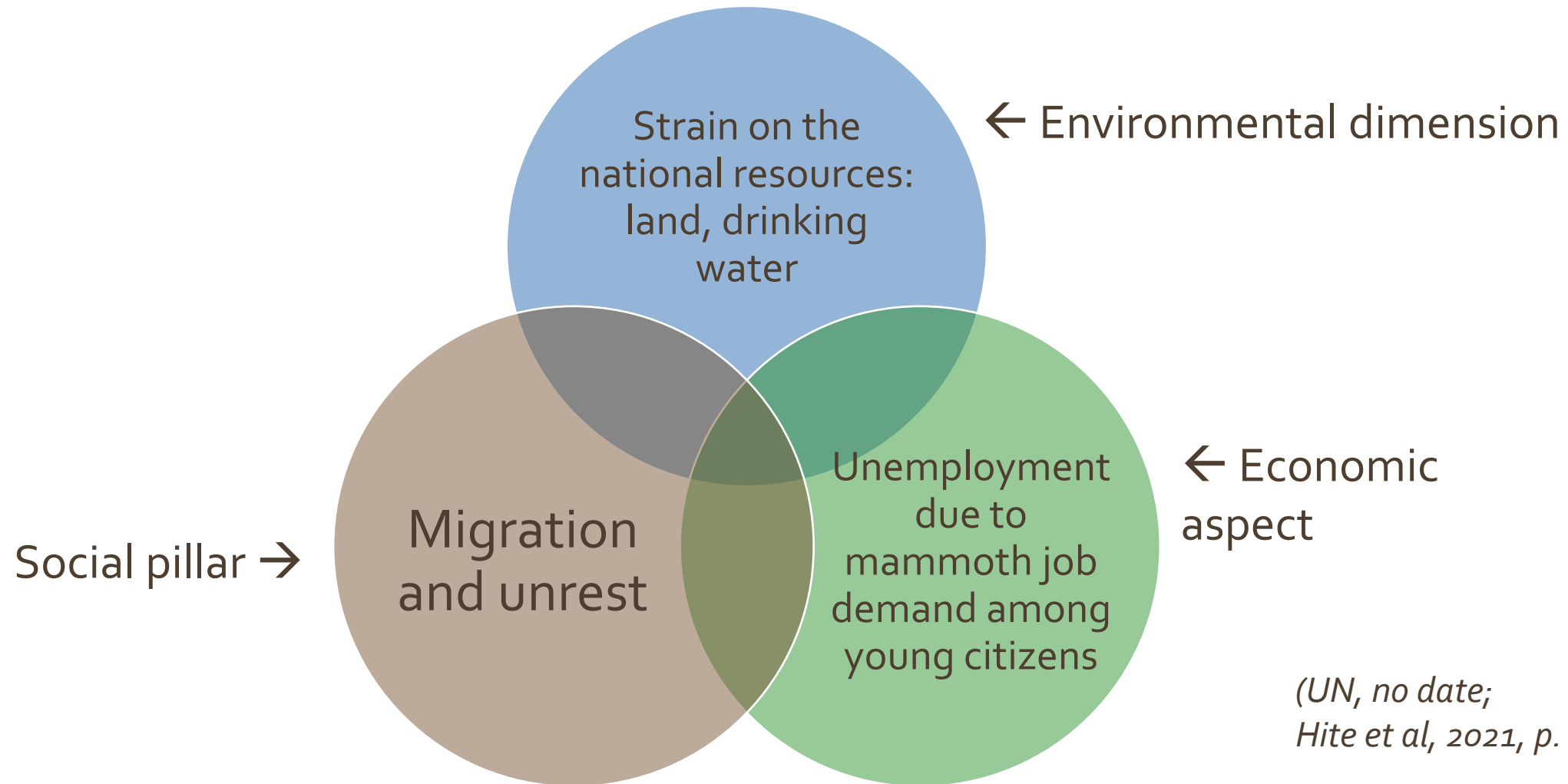
- Realisation: unwanted 'social and environmental changes' entailed with economic development;
- The awareness was raised in both developing and developed nations

(Hite and Seitz, 2021, p.6).



(Munch, 1893)

Negative features of quick-growing population can be observed in 'less developed countries'

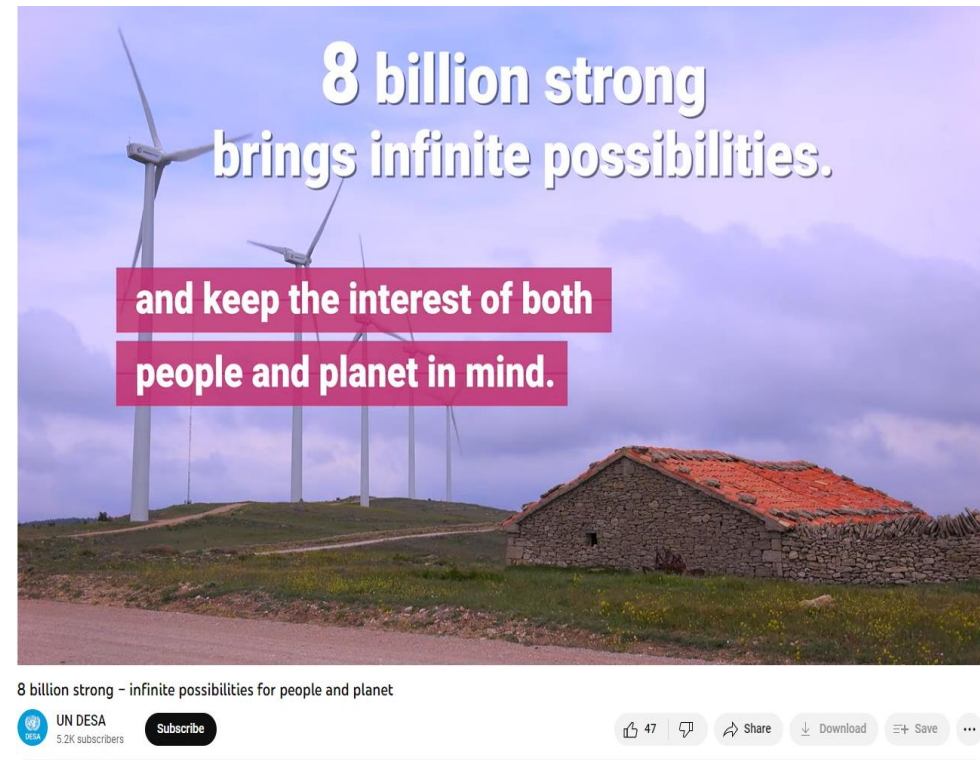


*(UN, no date;
Hite et al, 2021, p. 74; 96-97)*

Urgent need for sustainable growth and 'family security'

Otherwise...

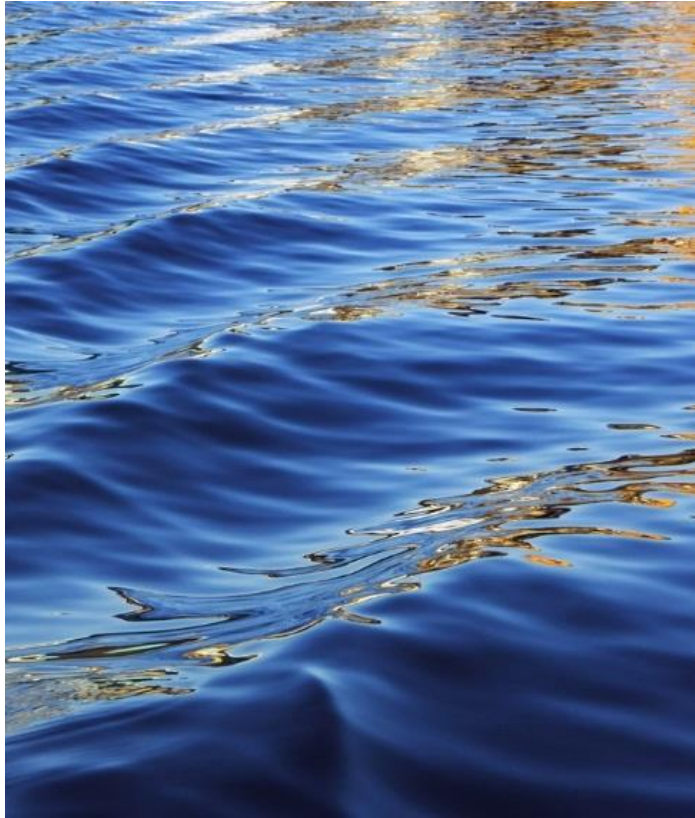
Rapid population rise continues (Clay and Vander-Haar, 1993), 'cancelling out the advances of modernisation' and hindering accomplishments in welfare (Petrucci, 2000; Wilmoth *et al*, 2022).



(UN DESA, 2022)



Tensions between policy and practice



Problems brought by capitalism and consumerism

- 'Dis-equities' may be produced by 'capitalist growth' that goes out of control (Petrucci, 2000), as capitalism is 'based on the labour market' and looks to increase profit (Delanty, 2019).
- If everyone lived with the same standard of consumption like Americans and Canadians: '4.5 more planet Earths' would be in need even if the population remained stable (Robertson, 2017, p. 44; Strikwerda, 2018).

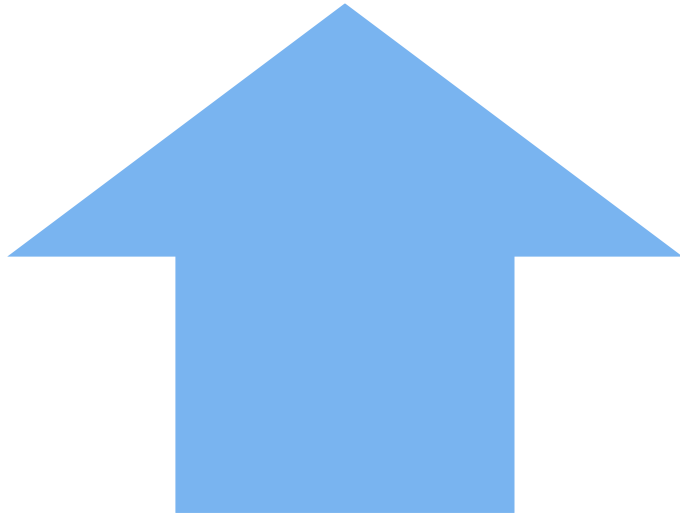
(Mayell, 2004)



Recommendations

- Ecologists call for a swift and drastic change in **governmental policies**;
- Amid the **debate on the “optimal number”** of the global population, governments and individuals are advised to exert efforts for the present and future generations (Cohen, 2005; Hite *et al*, 2021, p.96)
- **Replacement fertility rate**: the number of children born by a female human that ‘will keep the population size constant at zero growth’ should stand at 2.1 (Robertson, 2017, p. 47; Craig, 1994).
- **Gradual slowdown** in population growth allows time to seek answers to negative social and economic situations (Hite *et al*, 2021, p. 94-96).
- A need for **new human behaviour**, particularly curbing ‘affluent over-consumerism’ (Crist *et al*, 2022; Hess, 2016, p. 625).

At present: countries encourage more children



Wealthy countries with extensive low fertility rates and China have launched incentives to persuade 'women to have more children' (Hite *et al*, 2021, p. 74-77; Davidson, 2022).



Average number of children per woman declined to fewer than 3 by 2012. The figure stays at more than 4 in poorest countries (Hite *et al*, p. 84-85).

→ still higher than the ideal of '2.1 children per woman' (Nargund, 2009; Craig, 1994).

Low birth rate raises labour shortage concerns

- Concerns about 'loss of national power, economic growth, national identities' (Hite *et al*, p. 79).
 - Petrucci (2000); Lummis (1996): social change has been greatly dependent on economic growth.
- Many place the planet as a lower priority than profit and people.



Ironically, a steep decline in population may trigger social and economic problems, also affecting other dimensions of sustainability.

Conclusion

- Population is set to keep growing for the next few decades (UN, no date).
- Less wealthy countries having higher population increase rates are contributing to 'a planet with unprecedented population growth' (Hite *et al*, p. 98).
- Science and technology may not be able to offset environmental degradation and poverty if there are no changes in population trends and human activities (US National Academy of Science and Royal Society of London, 1992).
- Smaller population would make it easier for sustainability work (Hite *et al*, 2021, p. 79).



(Hubbard/SWNS, 2019)

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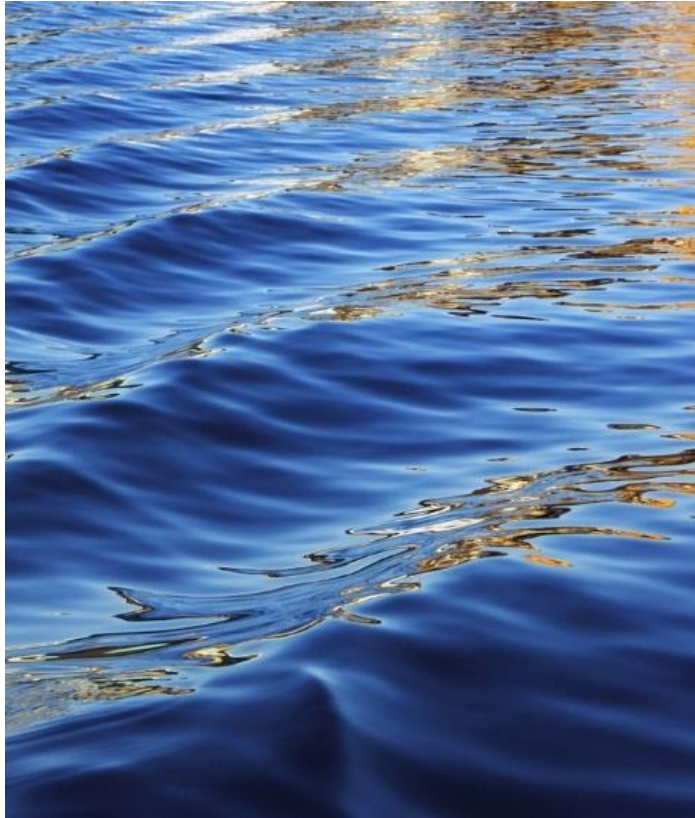
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Thank you for your attention!

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