The Jus Semper Global Alliance

In Pursuit of the People and Planet Paradigm

Sustainable Human Development

September 2022 BRIEFS ON TRUE DEMOCRACY AND CAPITALISM

Is Population Crucial for Degrowth?

Population size is inextricably linked to the ideal of achieving a sustainable and dignified ethos for all living beings

Álvaro J. de Regil

Introduction

The vision of most degrowth proponents is to gradually yet radically decrease energy consumption and all earth's resources until we reach a truly sustainable stationary/steady-state ethos. In such a state, the consumption levels by the planet's inhabitants would enable our "home" to replenish what we need to secure and preserve dignified conditions in our existence, allowing all living things to reproduce and enjoy our lives sustainably. To succeed, humans need to embark on a degrowth transition that builds a radically different paradigm that replaces its exact opposite, capitalism. This system requires the endless consumption of all resources on our planet to grow, reproduce and accumulate wealth unrelentingly. It assumes we live in a cornucopian ethos, where all resources are regarded as a gift to humans from a superior entity and are inexhaustible. As a result, it consumes an unsustainable amount of energy that produces unsustainable amounts of CO_2.

Photo by Alex Block in Unsplash

In geological terms, according to the latest stratigraphic evidence, we endure the unsustainable Anthropocene Epoch,[1] driven directly by our unrelenting capitalistic consumption. A safe and just transition to a sustainable paradigm, which I have called Geocratia ("Government by the Earth"), since my paper on the subject of 2020,[2] can only succeed by drastically decreasing our ecological footprint, by decreasing our consumption of energy and CO_2 emissions. This inevitably entails drastically reducing our consumption of the Earth's resources. To achieve this, we must not only replace the capitalistic system of sheer production/consumption but reduce the human population, tantamount to billions of people that capitalism utilises as billions of consumer units to fulfil its nature. As such, we demand resources to fulfil our needs—many of them completely superfluous—and, with our consumption, represent the direct precursors of climate change and our planetary rift, hence the capitalistic-driven Anthropocene. Most degrowth proponents tend to avoid the population factor, many afraid of being perceived as Malthusian, which is not the case. But in the context of a genuinely democratic ethos, we must incorporate population degrowth at the core of any degrowth imaginary, for we are the preeminent source of the unsustainable consumption of our planet. If people become conscientious of the existential danger we are facing, we hope that many will opt to embark on a transition that includes as a key driver in our trajectory the gradual degrowth of population. If the majority refuse, that will always be their right. In such a case, we will have to face the consequences of significantly reducing the chances of accomplishing a safe and just transition—ecologically safe for all species and socially just for people, particularly in the Global South—to avoid the evident existential threat that we are facing.

A safe and just transition to a sustainable paradigm, can only succeed by drastically decreasing our ecological footprint, by decreasing our consumption of energy and CO2 emissions... but capitalism utilises people as billions of consumer units to fulfil its nature.

Enduring the Capitalinian Cornucopia

For a successful transition, we must limit the damage we have inflicted on our home. In corporate media, we always hear about climate change as the challenge to our current system of unrelenting growth—hubristically portrayed as the best system by arguing that "there is no alternative". However, the ecological rift[3] we are enduring is the result of our transgression of nine planetary boundaries[4]—where climate change is only one of them. Scientists have determined that these boundaries (climate change, ocean acidification, stratospheric ozone depletion, biogeochemical flows of the nitrogen and phosphorus cycles, freshwater use, change in land use, loss of biosphere integrity [earlier "biodiversity loss"], atmospheric aerosol loading and novel entities[5] [earlier "chemical pollution"]) are indispensable for maintaining the Earth's stability to allow humanity to live sustainably in harmony with our home.

the ecological rift we are enduring is the result of our transgression of nine planetary boundaries that are indispensable for maintaining the Earth's stability to allow humanity to live sustainably in harmony with our home.

After more than two hundred years of capitalism, we live under the Anthropocene geological epoch. However, after post-WWII, human activity turned powerful enough to make the human consumption of our home's resources

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1 ↩ John Bellamy Foster and Brett Clark: The Capitalinian – The First Geological Age of the Anthropocene — The Jus Semper Global Alliance, October 2021.

2 ↩ Álvaro J. de Regil: Transitioning to "Geocratia – "the People and Planet and Not the Market Paradigm – First Steps — The Jus Semper Global Alliance, May 2020.

3 ↩ John Bellamy Foster, Brett Clark and Richard York: The Ecological Rift — Monthly Review Press, 2010.

4 ↩ See: Will Steffen, Katherine Richardson, Johan Rockström et al. 2015. Planetary Boundaries: Guiding human development on a changing planet. Science, (research article summary), Vol. 347 no. 6223 DOI: 10.1126/science.1259855.

5 ↩ Linn Persson et al., "Outside the Safe Operating Space of the Planetary Boundary for Novel Entities," Environmental Science and Technology, January 18, 2022.

unsustainable. Foster and Clark propose that based on the stratigraphic record and in line with the historical period that environmental historians see beginning around 1950, we live under the structures of capitalism because it has been the driving force behind the world's economies transforming our planet.[6] They note that the 1950s are known for ushering in "the synthetic age," because of the advent of the nuclear age and the massive proliferation of plastics and other petrochemicals associated with global monopoly capital.[7] The term Anthropocene, however, has elicited some controversy. One case is the argument of leading environmental historian Andreas Malm on behalf of the Capitalocene as a better term for the epoch that is not generally driven by human activity but specifically by capital accumulation driven by fossil capital. But Foster and Clark argue that *the notion of the Anthropocene as demarcated in natural science stands for an irreversible change in humanity's relation to the Earth. There can be no conceivable industrial civilisation on Earth from this time forward where humanity, if it is to continue to exist at all, is no longer the primary geological force conditioning the Earth's system.*[8] Thus, following the nomenclature for the geological time scale, they assert that the capitalist system dominates life on our planet in the twentieth-first century:

> *The uncontrollable, alienated social metabolism of global monopoly capitalism, coinciding with the introduction of radionuclides from nuclear testing, proliferation of plastics and petrochemicals, and carbon emissions from fossil capital —along with innumerable other ecological problems resulting from the crossing of critical thresholds —is manifested in the Capitalinian Age, associated with the present planetary crisis. Capitalism's relentless drive to accumulate capital is its defining characteristic, ensuring anthropogenic rifts and ecological destruction as it systematically undermines the overall conditions of life.*[9]

Hence, they propose that the first age of the Anthropocene be called the Capitalinian Age. Indeed, the tremendous risk posed on the planetary boundaries that we have already crossed or are on the verge of crossing is the direct result of the economic system we endure. This system is deliberately portrayed as a consequence of enjoying a liberal and duly democratic ethos when we endure what I regard as a marketocratic system, where the overlords of international financial markets and their global corporations reign supreme and are in full control of governments and the public agenda.[10] Marketocracy, where the only value is the systematic reproduction and accumulation of wealth by imposing an ethos of unrelenting growth in the consumption of the Earth's resources, has captured the life of humanity and all living beings across the world. To be sure, societies are now entirely dominated by market logic, with the further advancement and consolidation of capitalism and the emergence of supply-side neo-classical neoliberal economics since the 1970s. Thus, instead of living in so-called "democracies", as politicians of virtually the entire political spectrum lead people to believe, we live in marketocracies or the dictatorship of the market.[11] Polanyi expounds on it very clearly:

> *Ultimately, that is why the control of the economic system by the market is of overwhelming consequence to the whole organisation of society: it means no less than the running of society as an adjunct to the market. Instead of the economy being embedded in social relations, social relations are embedded in the economic system. The vital*

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6 ↩ John Bellamy Foster and Brett Clark: The Capitalinian – The First Geological Age of the Anthropocene — The Jus Semper Global Alliance, October 2021.

7 ↩ Ibidem, (p. 2).

8 ↩ Ibidem, (p. 5).

9 ↩ John Bellamy Foster and Brett Clark: The Capitalinian – The First Geological Age of the Anthropocene — The Jus Semper Global Alliance, October 2021., (pp. 11-12).

10 ↩ Álvaro J. de Regil: Marketocracy and the Capture of People and Planet — The Jus Semper Global Alliance, July 2021.

11 ↩ Álvaro J. de Regil: The Capture of Democracy to Impose Marketocracy – Why Democracy is a Hoax — The Jus Semper Global Alliance, October 2021.

> *importance of the economic factor to the existence of society precludes any other result. For once the economic system is organised in separate institutions, based on specific motives and conferring a special status, society must be shaped in such a manner as to allow that system to function according to its own laws. This is the meaning of the familiar assertion that a market economy can function only in a market society.*[12]

As the direct consequence of such unsustainable ethos, of the nine planetary boundaries, five have now been crossed by human activity, as reported in the updated report of an international team of 18 researchers in the journal Science. These are climate change, loss of biosphere integrity, land-system change and altered biogeochemical cycles (phosphorus and nitrogen)[13] and novel entities has just been added.[14] Scientists regard two of these, climate change and biosphere integrity, as "core boundaries".[15] Significantly altering either of these "core boundaries" would "drive the Earth System into a new state", which entails a much less liveable state. To this effect, the lead author, Will Steffen, asserts that transgressing a boundary increases the risk that human activities could inadvertently drive the Earth System into a much less hospitable state, damaging efforts to reduce poverty and leading to a deterioration of human wellbeing in many parts of the world, including wealthy countries.[16]

The boundaries for climate change, ocean acidification, and stratospheric ozone depletion can be regarded as tipping points where, if we cross their thresholds, we would make the Earth unhealthy for life, whilst the boundaries of nitrogen and phosphorus cycles, freshwater use, change in land use, and biodiversity loss are seen as the onset of irreversible environmental degradation.

Foster, Clark and York explain that the boundaries for climate change, ocean acidification, and stratospheric ozone depletion can be regarded as tipping points where, if we cross their thresholds, we would make the Earth unhealthy for life, whilst the boundaries of nitrogen and phosphorus cycles, freshwater use, change in land use, and biodiversity loss are seen as the onset of irreversible environmental degradation.[17]

All living things have a metabolic interaction with nature to sustain themselves. They take nutrients from their ecosystems and, in this interaction, "help"—consciously or unconsciously—the planet to replenish its resources so that a sustainable equilibrium is maintained. The actions of all species in their interaction, and nature-imposed conditions, transform the processes and the outcomes of their dynamic interchanges. This constitutes the metabolic interactions between all species and nature. Humans, as another species, also have a metabolic interaction that, following Marx's analysis, we describe as

In stark contrast with the rest of all living things, our species in capitalism has taken us into an endless spiral of consumption of nature, of our home, of which we are just another species and on which our life depends. This is an absolutely unattainable trajectory that, unless we radically veer by replacing the current ethos, represents a clear existential threat for all living things before the end of this century.

12 ↩ Karl Polanyi: The Great Transformation, Beacon Press, 2001 (p. 60).

13 ↩ Will Steffen, Katherine Richardson, Johan Rockström et al. 2015. Planetary Boundaries: Guiding human development on a changing planet. Science, (research article summary), Vol. 347 no. 6223 DOI: 10.1126/science.1259855.

14 ↩ A study published last January reports that "the safe operating space of the planetary boundary of novel entities is exceeded since annual production and releases are increasing at a pace that outstrips the global capacity for assessment and monitoring." See: Linn Persson et al., "Outside the Safe Operating Space of the Planetary Boundary for Novel Entities," Environmental Science and Technology, January 18, 2022.

15 ↩ Will Steffen, Katherine Richardson, Johan Rockström et al. 2015. Planetary Boundaries: Guiding human development on a changing planet. Science, (research article summary), Vol. 347 no. 6223 DOI: 10.1126/science.1259855, (p. 1).

16 ↩ Will Steffen et al. 2015. Planetary Boundaries: Guiding human development on a changing planet. Science Vol. 347 no. 6223 (press release)

17 ↩ John Bellamy Foster, Brett Clark, and Richard York: The Ecological Rift - Capitalism's War on the Earth - Monthly Review Press, 2010. (pp. 15-16).

our social metabolism with nature. As we depend on nature to sustain and reproduce ourselves, our activity interacts with the ecosystems where we are active and, combined with the nature-imposed conditions, produces outcomes that influence and may transform the ecosystems. As we become conscientious of our mutually-dependent social relationship with nature, we may attempt to sustain it by taking care of our planet, treating it as a friend or as our home, or we may not, as with capitalism. Indeed, Marx's analysis detected that the social relations of capitalism produced what he described as a metabolic rift between humans and nature.[18] However, in stark contrast with the rest of all living things, our species in capitalism has taken us into an endless spiral of consumption of nature, of our home, of which we are just another species and on which our life depends. This is an absolutely unattainable trajectory that, unless we radically veer by replacing the current ethos, represents a clear existential threat for all living things before the end of this century.

To explain it succinctly, for capitalism to thrive and fulfil all the delusional dreams of the tiny elite of marketocratic overlords driving it requires the infinite consumption of resources to transgress the planetary boundaries, disregarding the axiomatic fact that we live on a planet with finite resources; an axiom that makes the marketocratic system delusional and utterly unsustainable. We cannot change the laws of science for the simple fact that technology cannot change the natural science that rules life on our planet. Scientists have known this since the nineteenth century. Technological hubris cannot suspend the mathematics of capitalist accumulation and the laws of thermodynamics. The second law of Thermodynamics, first formulated by Sadi Carnot (in Carnot's principle) in the nineteenth century, in its standard definition, states that *the transformation of energy is not completely reversible due to a quantity called entropy (from Greek: transformation), which represents the unavailability of a system's thermal energy for conversion into mechanical work, often interpreted as the degree of disorder or randomness in the system.* This second law states that entropy always increases with time: *the sum of the entropies of all the bodies taking part in the process* (Oxford Dictionary). Consequently, if the diverse forms of energy transformation (heat, movement...) are not completely reversible, it is impossible not to have any economic consequences based on such transformations. Yet this was customarily ignored by economists. It was not until the 1970s that ecology was included in economics with the work of Nicholas Georgescu-Roegen: *The economy excludes the irreversibility of time. So it ignores entropy, the irreversibility of the transformations of energy and matter.* Consequently, residue and pollution are not factored-in in economic activity.[19] This is why Georgescu-Roegen explains *Had economics recognised the entropic nature of the economic process, it might have been able to warn its co-workers for the betterment of mankind—the technological sciences—that "bigger and better' washing machines, automobiles, and superjets must lead to 'bigger and better' pollution.*[20] Furthermore, although technology can increase the energy efficiency to reduce the ecological footprint of economic activity, it exponentially increases the use of new technologies that increase the environmental impact, which is explained by the phenomenon of the Jevons Paradox, or rebound effect.[21] A greater efficiency paradoxically turns into greater use of the resource.[22] Furthermore, if it weren't for entropy (the transformation of a quantity of energy into waste), all living things on this planet would never find scarcity and would be able to consume our home's resources eternally.

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18 ↩ Ibidem, (p. 75).

19 ↩ Serge Latouche: La apuesta por el decrecimiento, Icaria – Antrazyt 2006, p.21-22.

20 ↩ Nicholas Georgescu-Roegen, The Entropy Law and the Economic Process (Cambridge, Mass.: Harvard University Press, 1971), (p. 19).

21 ↩ John Bellamy Foster, Brett Clark, and Richard York: The Ecological Rift - Capitalism's War on the Earth - Monthly Review Press, 2010. (pp. 177-178).

22 ↩The Jevons Paradox materialises when new technologies increase efficiency and—under a market logic—increase demand due to a rebound in consumption levels. See also: Álvaro J. de Regil: Transitioning to "Geocratia" — the People and Planet and Not the Market Paradigm — First Steps, The Jus Semper Global Alliance, May 2020, pp. 11, 29 and 37.

Hence we must drastically reduce our current trajectory of doom by drastically cutting our energy consumption and all other resources, for we cannot infinitely consume on a finite planet. We cannot change the laws of nature. We cannot order the planet how to behave. As Georgescu-Roegen explained,

> *The Most important for the student of economics is the point that the Entropy Law is the taproot of economic scarcity. Were it not for this law, we could use the energy of a piece of coal over and over again, by transforming it into heat, the heat into work, and the work back into heat. Also, engines, homes, and even living organisms (if they could exist at all) would never wear out. There would be no economic difference between material goods and Ricardian land. In such an imaginary, purely mechanical world, there would be no true scarcity of energy and materials. A population as large as the space of our globe would allow could live indeed forever.*[23]

Population and Degrowth

The existential threat has only one possible solution which transcends political and economic philosophical thought. It is about the natural law that governs our home, Planet Earth. Thus the only way out—if we still have time—is to steer our trajectory of doom towards an ethos where our consumption of the Earth's resources—our social metabolism—flows in harmony with the planet's metabolic rhythm. Hence, the only way to make our best effort to save our home and thus humanity is to cut consumption drastically. This particular task makes utopian visions of a new paradigm liberated from marketocracy a very realistic endeavour, or Mother Nature will take care of wiping us out from the face of the Earth.

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Consequently, if we want to bequest humans and non-humans a future with dignified qualities of life on our planet, our only choice is to build a dramatically different paradigm for the welfare of people and the planet and NOT the market. Therefore, we must radically decrease our energy consumption levels and all other materials by replacing capitalism with an unambiguous ecosocialist ethos. This is where the idea of Degrowth—until we reach a stationary state that would render a "steady-state economy"—takes the front seat.

Taking the degrowth vision a step further—into an ethos where societies move from the dystopia of marketocracy to the utopia of learning to live in a paradigm where we allow the Earth to govern us, or Geocratia—economic growth (GDP) and wealth lack a sense of progress. Actual progress and development translate into new indicators measuring increments in the level of sustainability by reducing our ecological footprint in all aspects of human life. These indicators would measure the development of human capacities anchored on solidarity. To drastically cut our ecological footprint, we must veer to a trajectory of degrowth[24] in consumption until we reach a steady-state economy, as argued by Herman Daly[25] and others, that is sustainable, just for the people and safe for the planet.

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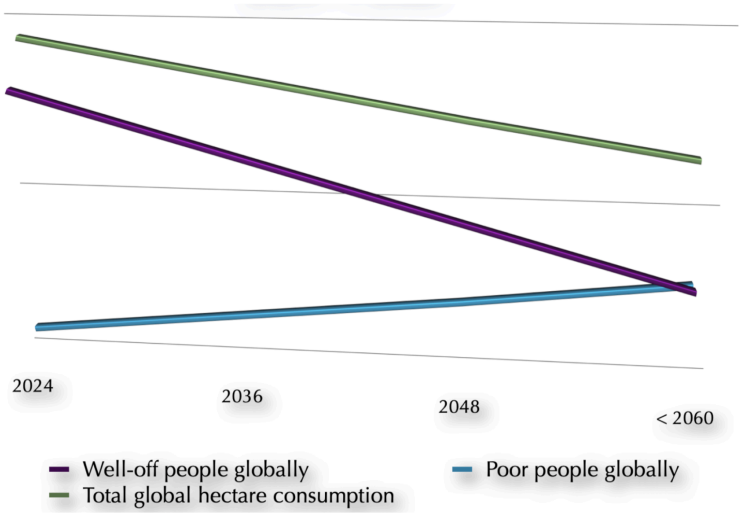
[23] ↩Nicholas Georgescu-Roegen. "Energy and Economic Myths." Southern Economic Journal 41, no. 3 (1975): 347-81. Accessed April 27, 2020. doi:10.2307/1056148. P 353.

[24] ↩ Giorgos Kallis: The Degrowth Alternative — The Jus Semper Global Alliance, April 2019.

[25] ↩ Herman E. Daly: A Steady-State Economy: Sustainable Development Commission, UK (24 April, 2008)

What is the depth of our degrowth trajectory? Many assessments believe we must cut our ecological footprint by one-third by 2050 at the latest, if not much earlier.[26] New reviews stress that, at the very least, final energy demand must be cut by 40%. A universal basic income, work remunerations and social security entitlements that secure dignified living standards for the dispossessed, if followed by drastically-reduced consumption and waste by the affluent, would bend the curve of unsustainable consumption toward a sustainable consumption trajectory. Chart 1 illustrates—paralleling the rapid reduction scenario of the Global Footprint Network that advocates the need to cut our energy consumption by about one-third by 2050—how this trend might diminish our global footprint while achieving the equity outcome a living remuneration represents by 2060.[27] To accomplish this, and following a trajectory of degrowth until consolidating a steady-state economy, the affluent would need to cut their per capita hectare consumption by as much as three-fifths whilst poor people would increase it by as much as threefold. In the "safe and just transition" to a Geocratic paradigm, capital-labour remunerations must be gradually phased out as we successfully transition to the underlying Planetary Sustainable Ecology. In Geocratia, I outline a non-exhaustive list of 19 Core Components of this ecology: energy, economy, currency, common's contributions, degrowth and steady-state, enterprise, work and labour rights, markets, human rights, well-being and responsibilities (including universal healthcare, education, basic income, housing and a dignified retirement pension), private property, high-quality of life standards, a culture of frugality, poverty, population, food and land use, transportation, housing, locality and technology.[28]

Chart 1: Hectare consumption per capita 2024 - < 2060



Source: Chart elaborated by author.

With the change from marketocracy to a Geocratia, fundamental concepts in assessing activity in the different forms of social organisation (nation, province, municipality, town, community...) are redefined as we transcend from capitalistic consumer societies to an ethos of sustainable democratic and thus equitable societies. These concepts are development, progress and sustainability and are holistically connected and are interdependent. In an ethos where the Earth governs us at the same concurrent lapse that we increase consumption and, inevitably, the footprint of the dispossessed, the social strata with an unsustainable

We must also keep in mind that the Anthropocene does not imply that humankind as a whole is responsible for the depredation of our home and the trajectory of destruction that we are following. The vast majority of the damage to the nine planetary boundaries aforementioned comes from the wealthiest countries.

[26] ↩ Many environmental scientists consider that our footprint needs to be reduced substantially at a faster pace than by 2050. See David S. Wood and Margaret Pennoc, Journey to Planet Earth – Plan B: Mobilising to Save Civilisation, Educators Guide. (Washington, DC: Screenscope, 2010).

[27] ↩ GLOBAL FOOTPRINT NETWORK ANNUAL REPORT - 08 A time for change.

[28] ↩ Álvaro J. de Regil: Transitioning to "Geocratia – "the People and Planet and Not the Market Paradigm – First Steps – Appendix D: Core Components of a Planetary Sustainable Ecology — The Jus Semper Global Alliance, May 2020.

ecological footprint will have to reduce it drastically. Nonetheless, the result is a substantial decrease of the global human footprint on the Earth.

If it is not already evident, we must also keep in mind that the Anthropocene does not imply that humankind as a whole is responsible for the depredation of our home and the trajectory of destruction that we are following. The vast majority of the damage to the nine planetary boundaries aforementioned comes from the wealthiest countries, which also control the capitalist system that has imposed a marketocratic regime upon the world. Will Steffen points out that the global aggregates of the world's socio-economic trends mask vast inequalities among countries. He stresses that the difference among the wealthiest countries (OECD countries), the BRICS (Brazil, Russia, India, China and South Africa) and the rest (the poorest countries) are striking. And, despite that population growth is greater in poor countries, the main driver of the Anthropocene is consumption, which comes overwhelmingly from the wealthiest countries:

> *Nearly all of the population growth from 1950 to 2010 occurred in the BRICS and poor countries. On the other hand, even with the rapid rise of the Chinese economy in the first decade of the 21st century, most of the world's economic activity and hence consumption still resided in the OECD countries. In 2010, the 18% of the world's population that lives in OECD countries accounted for 74% of global economic activity. Thus, the Malm/Hornborg hypothesis that industrial capitalists of the wealthy countries, not 'mankind as a whole', are largely responsible for the Anthropocene, as seen in the Great Acceleration patterns, is borne out by the data.*[29]

Another study assesses the sustainability of the world's population growth vis-à-vis the parallel deforestation process by applying a model based on a random growth process, which depicts the technological evolution of humankind, along with humans-forest interaction, and evaluates the probability of avoiding the self-destruction of our species. *Based on the current resource consumption rates and best estimate of technological rate growth the study shows that we have a very low probability, less than 10% in the most optimistic estimate, to survive without facing a catastrophic collapse.*[30]

In fact, the latest IPCC report of August 2021, authored by 278 scientists from 65 countries, attests to the extremely dangerous situation that we follow. I should note that this report is the true assessment of the rift between the human species with the planet and not the "Summary for Policy Makers" (SPM) reports authored by governments and corporations that censored and removed the most important conclusions of the scientists in the original report.[31] For instance, in the Full Report for "Mitigation of Climate Change", not censored, the word "degrowth" appears 26 times,[32] whilst it is mentioned zero times in the Summary for Policy Makers.[33] Indeed, a recent assessment lists many of the items censored in the SPM for the

Essentially, the source of the Anthropocene and the crossing of the planet's boundaries that make it unsafe for all life forms is consumption. The overwhelming majority (three-fourths) of consumption comes from less than one-fifth of the world's population living in wealthy countries of the OECD club.

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29 ↩ Will Steffen, "Mid-20th-Century 'Great Acceleration,'" in The Anthropocene as a Geological Time Unit, ed. Jan Zalasiewicz et al., (Cambridge: Cambridge University Press, 2019), (p. 258).

30 ↩ Mauro Bologna and Gerardo Aquino: Deforestation and world population sustainability: a quantitative analysis — The Jus Semper Global Alliance, August 2022.

31 ↩ The Editors of Monthly Review: Leaked IPCC Reports — The Jus Semper Global Alliance, 1 January 2022.

32 ↩ IPCC: Climate Change 2022: Mitigation of Climate Change – Full Report.

33 ↩ IPCC: Climate Change 2022: Mitigation of Climate Change – Summary for Policy Makers.

2022 IPCC Mitigation report, and the specific social-ecological measures advanced by the scientific consensus report that were equally censored.[34]

Furthermore, the IPCC scientists report on Mitigation of Climate Change repeatedly establishes in several chapters that the two drivers of CO_2 are economic and population growth. Below are three examples:

> *Direct CO_2 emissions from energy were projected to double or even triple by 2050 (IPCC 2014b, p. 20) due to global population and economic growth, resulting in global mean surface temperature increases in 2100 from 3.7°C to 4.8°C compared to pre-industrial levels*[35] *…Continued growth in population and income are expected to continue driving up demand for goods and services (Chapters 2, 3 & 5),*[36]*… Globally, GDP per capita and population growth remained the strongest drivers of CO_2 emissions from fossil fuel combustion in the last decade (robust evidence, high agreement).*[37]

Essentially, the source of the Anthropocene and the crossing of the planet's boundaries that make it unsafe for all life forms is consumption. The overwhelming majority (three-fourths) of consumption comes from less than one-fifth of the world's population living in wealthy countries of the OECD club. This portion is taking the rest of humanity to a final cliff of death by imposing a completely unsustainable economic-political system driven by global capitalism that only benefits a tiny elite of plutocrats of not even one per cent.

Furthermore, the supply chains of global corporations use millions of workers in the Global South in manufacturing and assembly lines that exploit them as labour commodities through labour arbitrage to fulfil the consumption demand of the Global North.[38] Thus, a significant portion of the greenhouse gasses emitted in the system's periphery is produced by these manufacturing units owned or subcontracted by global corporations, with the bulk of the production exported to the Global North for its final consumption. Our own research in the past two decades consistently exposes the huge wage gaps between workers in the Global North and their counterparts in the Global South for doing the same job for the same global corporations in the assembly lines of their supply chains.[39] Demand/consumption in the Global North is the crucial element driving our ecocide that aggregates into the completely unsustainable ecological footprint of the wealthier countries responsible for the vast majority of the destruction of the Earth's systems.

To successfully change our trajectory by decreasing our energy consumption and all Earth's materials, we must not just replace capitalism but also reduce the size of the human population to the democratically possible extent.

To successfully change our trajectory by decreasing our energy consumption and all Earth's materials, we must not just replace capitalism but also reduce the size of the human population to the democratically possible extent. Even if we can build a new non-capitalist paradigm, we remain the main drivers of consumption of the Earth's resources and CO_2 emissions. Even if we change our lifestyle systems from consumerist to frugal, the planet is finite. It cannot hold an

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34 ↩ The Editors of Monthly Review: Notes on Time is Running Out – The Jus Semper Global Alliance, October 2020.

35 ↩ IPCC: Climate Change 2022: Mitigation of Climate Change, chapter 1 (pp 1-7 and 1-8) – Full Report.

36 ↩ Ibidem: (p. 1-23).

37 ↩ Ibidem: chapter 2 (p. 2-4).

38 ↩ Intan Suwandi: Back to Production: An Analysis of the Imperialist Global Economy — The Jus Semper Global Alliance, October 2020.

39 ↩ International Observatory of Living Wages: 2020 Report: Manufacturing wage gaps for Group of Seven (G7) large economies and other selected economies, including "emerging" economies with available wage and PPP data (1996-2018). The Jus Semper Global Alliance, September 2020.

endless growth of the human population and all the resources we need to live dignified and comfortable yet frugal lifestyles. Although population growth rates have consistently decreased, the most recent projection of the world's population shows that from the 7,7 billion in 2019, in 2050 we will reach 9,7 billion and 10,9 billion in 2100, even if the world's birth rate collapses from today's 1% to only 0,1% growth, according to the UN's medium fertility variance.[40] The scientist leaked report indicates that even in the most optimistic projection, we will face catastrophic events; thus, billions of people will suffer a real existential threat, and many will die:

> *Even in the case of SSP1-1,9, the most optimistic projection of the Shared Socioeconomic Pathways—in which carbon emissions globally peak in the next four years, a 1,5°C increase in global average temperature over preindustrial levels would be avoided until 2040, and the goal of net-zero carbon emissions would be reached by 2050—the consequences for global humanity would nonetheless be catastrophic by the measure of all historical precedents. This would include various "compound" events of extreme weather sometimes known as global weirding (including heavy precipitation, record floods, heatwaves, droughts, monsoon breakdowns, mega-storms, glacier melts, and sea-level rise) affecting every region and ecosystem of the world.*[41]

Every human is a consumer unit of resources. Thus it is imperative to replace capitalism as the driver of CO_2 emissions and decrease the world's total population. Ian Lowe explains the tremendous impact fewer children will have in reducing energy consumption and CO_2 emissions. The effect of one less child and its potential descendants produces savings in CO_2 emissions, dwarfing the contributions of many climate control actions such as living without a car, CO_2 a vegetarian diet or avoiding air travel.[42] Thus, fewer children must be a vital component of the new paradigm.

> *The calculation recognised that a child will not just be a consumer for their lifetime but probably in turn have children who will eventually have children of their own, and so on for future generations. By adding up the lifetime emissions of each child and their potential descendants, then dividing that total by the expected lifespan of the parents, with each parent assumed responsible for 50% of the child's emissions, 25% of each grandchild, and so on, the remarkable conclusion was that having one less child would save the equivalent of 58.6 tonnes of CO_2 each year of the parent's remaining life. By this calculation, having one fewer child saves each parent more than 20 times as much as living without a car, or about 70 times as much as eliminating meat from the diet.*[43]

We need to reduce the size of the economy to reduce human consumption, but to reduce human consumption we need to both build a frugal economic paradigm and reduce the human population.

Population Size is Inextricable from True Sustainability

Population reduction in degrowth or in most work proposing replacing the current economic structures is scarcely addressed because it is a complex ethical issue. It is a taboo topic in many circles addressing the whole spectrum of

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40 ↩ Our World in Data: World Population 1700-2100, based on HYDE, UN and UN population Division (2019 revision)

41 ↩ The Editors of Monthly Review: Leaked IPCC Reports — The Jus Semper Global Alliance, 1 January 2022, (p.2).

42 ↩ Ian Lowe: Population and the Great Transition – The Jus Semper Global Alliance, August 2022.

43 ↩ Seth Wynes and Kimberly Nicholas, "The Climate Mitigation Gap: Education and Government Recommendations Miss the Most Effective Individual Actions," *Environmental Research Letters* 12 (2017): 074024, https://doi.org/10.1088/1748-9326/aa7541; for the emissions impact of procreation, the study uses the findings of Paul Murtaugh and Michael Schlax, "Reproduction and the Carbon Legacies of Individuals," *Global Environmental Change* 19, no. 1 (2009): 14–20.

sustainability. But a Geocratic paradigm aspiring to build a holistically sustainable ethos must propose a trajectory that preeminently includes population reduction.

The idea of human population reduction goes against our deepest essence and the nature of all living things of Mother Earth. A genuinely democratic ethos, such as Geocratia, cannot enforce the drastic reduction of the population as part of its degrowth strategy. Yet, it is unquestionable that to achieve our ideal of a sustainable system, we need to reduce our population gradually but substantially.[44] Given the unrelenting impact of the completely unsustainable anthropocentric activity on our planet, it is a matter of survival of our species.[45] The first goal —because we are running out of time to bring about a truly effective solution—would be to stop the net growth of the population, ideally, within one generation (30 years). Still, we need to continue implementing duly-democratic-endorsed-policies to reduce our population by the end of the century or at the most by mid-next century if we still have time; if we still exist. This would put the planet and humankind on equal footing. The planet would be healthy and able to replenish what is necessary for a sustainable population of humans and non-humans to live with dignity. In drastic contrast with how we behave today, the geocentric nature of Geocratia would make humans take good care of the hand that feeds our mouth. The great challenge, however, is not knowing how much time we have to accomplish this.

We cannot enforce the drastic reduction of the population. Yet, to achieve our ideal of a sustainable system, we need to reduce our population gradually but substantially.

To be sure, a number of questions take us into a conundrum that communities must democratically resolve. How will we take care of the growing mass of older adults if we cut the size of the young segments? How will we feed the younger and the older segments if they keep growing on a planet with limited resources? How will we address the bioethical issue of our innate right to procreate if the planet cannot physically sustain us? Some proposals call for a drastic population drop to bring it down to pre-industrial times. One calls for completely disregarding any ethical issues and cutting down the population through extreme policies, evidently undemocratic, to the point that its author and his wife committed suicide.[46]

Such proposals are incompatible with a Geocratic paradigm. However, we must internalise the idea that we need to substantially reduce the world's population in the next 80 years. We must come to terms with how to go about it for simple ethical reasons. If we do nothing, those who survive in future generations will endure a terrible planet, and then nature will take its course, including human nature, in a very Darwinian way. We cannot act by disregarding the entire spectrum of human rights, but, conversely, what would be the ethical justification to keep bringing more children into the world, if the vast majority will be condemned to a life of misery because they will not be able to enjoy most or any of these same human rights in a planet stifled with pollution,

We cannot act by disregarding the entire spectrum of human rights, but what would be the ethical justification to keep bringing more children into the world, if the vast majority will be condemned to a life of misery because they will not be able to enjoy most or any of these same human rights in a planet stifled with pollution, with thousands of species exterminated and great scarcity of many of the resources vital for life?Will we uphold the right to procreation of present generations over the right to a dignified life of future ones?

[44] ↩ Will Steffen et al: Trajectories of the Earth System in the Anthropocene — Proceedings of the National Academy of Sciences Aug 2018, 115 (33) 8252-8259; DOI: 10.1073/pnas.1810141115, Supporting Information (Table S5. Human actions that could steer the Earth System onto a 'Stabilized Earth' trajectory).

[45] ↩ John Bongaarts Development: Slow down population growth. Nature530:409–412. (2016)

[46] ↩ William Stanton: The Rapid Growth of Human Populations 1750–2000: Histories, Consequences, Issues, Nation by Nation, Multi Science Publishing Co Lt.s. 2003

with thousands of species exterminated and great scarcity of many of the resources vital for life? Bringing children into a life of misery just because of our primaeval instincts and religious and philosophical considerations would be a rather selfish and antithetical behaviour relative to our pledge to respect and protect human rights. Will we uphold the right to procreation of present generations over the right to a dignified life of future ones? Hence, we better start now to come to terms with the need to change our systems and values to reach a sustainable, safe and equitable footprint that can provide the necessities to live with dignity to as many people as possible indefinitely. We must bequest to future generations of humans and non-humans a future worthy of dignity and sustainability.

How Many People is Sustainable?

From a strategy of degrowth perspective, Latouche claims that our ecological footprint crossed the threshold of no sustainability in the 1960s when the world population was three billion, based on the assessment of the availability of the biomass of renewable energies.[47] According to this, even if we consider a lower efficiency in energy production, a stable population of three billion would be realistically sustainable. Another reason is that the potential use of the soil available for agriculture would be far from being depleted because not all the land viable for agriculture is being used.[48] Georgescu-Roegen considered in 1975 that the planet was already overpopulated.[49] We must find out how many are truly sustainable and reduce the population as much as people are willing to. We do not know if this is realistic, too high, or too little. In Geocratia, we would need to perform several ad hoc and objective studies as part of the deliberations that each national/local community would need to undertake to address this utterly complex issue.

Such a puzzle can only be attempted to be resolved through strictly truly democratic public arenas.... population controls cannot be imposed. They must be the product of collective choice that coevolves with a deepening of democratisation. However, contrary to what some analysts suggest, this must be done in the context of the paradigm change to design new duly consensual strategies to reduce the world's population.

Such a puzzle can only be attempted to be resolved through strictly truly democratic public arenas. This must be carried out with the direct participation of expert analysts not controlled by the system to make a specific assessment of what would be the size of the world's population—in our best estimate—that can enjoy a sustainable life ecologically and worthy of human dignity, at a stationary state. Some of the key variables that need to be taken into account are the effects on the planet and our quality of life of the current completely unsustainable anthropological footprint; the growth of inequality, and the emergence of hundreds of millions of précariat[50] in addition to the billions of dispossessed, which ensued from the lack of social justice and democracy across the world; and the available land for agriculture in line with a sustainable footprint. One specific premise for the steady-state stage is that births need to equal deaths. Moreover, from a national perspective, considering that in most countries there is migration and immigration, then births plus immigrants must equal deaths plus migrants at whatever steady population level is defined as sustainable. This has to be the kind of genuinely democratic discussion that must be carried out to arrive at a consensus to tackle the population issue. It must

The only way to replace capitalism and reduce our population is democratically through a revolutionary and thorough educational process.

47 ↩ Serge Latouche: Serge Latouche: La apuesta por el decrecimiento, Icaria – Antrazyt 2006, p.129-131.

48 ↩ In Silvia Pérez-Vitoria book, "The return of the peasants", 38% of land in the world is viable for farming but less than a third is actually used. See: Silvia Pérez-Vitoria: Le paysan sont de retour, Actes Sud, 2005.

49 ↩ Lénergie et les mythes économiques", retaken in *La Décroissance*, quoted by Franck-Dominique Vivien, Le Développement Soutenable, op. quote p. 1O1.

50 ↩ Précariat: social group suffering multiple forms of insecurity formed by people suffering from precarity, which is a condition of existence without predictability or security, affecting material or psychological welfare. See: Guy Standing: The Precariat – The New Dangerous Class. Bloomsbury Academic, 2011.

be a truly collaborative and consensual decision. Many analysts increasingly agree that population controls cannot be imposed. They must be the product of collective choice that coevolves with a deepening of democratisation.[51] However, contrary to what some analysts suggest, this must be done in the context of the paradigm change to design new duly consensual strategies to reduce the world's population.

The only way to replace capitalism and reduce our population is democratically through a revolutionary and thorough educational process. Suppose people refuse to cut consumption and to have no or few children. In that case, we must respect such decision but also we will have to face the consequences, which likely be unsustainable and drive us to extinction, for replacing capitalism and reducing the world's population are essential for true sustainability. We do not live in a Ricardian land, and Mother Earth is a finite planet.

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[51] ↩ François Schneider, Giorgos Kallis, Joan Martinez-Alier: Crisis or opportunity? Economic degrowth for social equity and ecological sustainability. Introduction to this special issue, Journal of Cleaner Production 18 (2010) 511–518, ELSEVIER.

❖ **About Jus Semper:** The Jus Semper Global Alliance aims to contribute to achieving a sustainable ethos of social justice in the world, where all communities live in truly democratic environments that provide full enjoyment of human rights and sustainable living standards in accordance with human dignity. To accomplish this, it contributes to the liberalisation of the democratic institutions of society that have been captured by the owners of the market. With that purpose, it is devoted to research and analysis to provoke the awareness and critical thinking to generate ideas for a transformative vision to materialise the truly democratic and sustainable paradigm of People and Planet and NOT of the market.

❖ **About the author:** Álvaro J. de Regil is the Project initiator and Executive Director of The Jus Semper Global Alliance since 2003. At a broader level, his work is currently centred on advancing a "people and planet" paradigm. As part of this transformative concept, he is active in the areas of labour rights, business and human rights, no-growth / degrowth / steady-state economics, basic income and the drastic reduction of humanity's environmental footprint on our planet as the only way to achieve real sustainability of life on our home: planet earth.

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Portal on the net: https://www.jussemper.org/
e-mail: informa@jussemper.org