

Political Science 375

Global Environmental Politics

Capitalism: A Time-Machine

A Marxist Critique and Gandhian Proposition

Word Count: 1998

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0.0 Abstract

This commentary argues that capitalism is a time-machine that systematically creates a socially differential possession and dispossession of nature, generating intra-and inter-generational inequalities within populations, and disproportionately diminishing the carrying capacities and lifespans of their ecosystems. It scrutinises global consumer-supplier nexuses through a Marxist critique and subsequently probes the potential of Gandhian philosophies in mitigating the resultant social and ecological inequalities. Using a case-study of deforestation in the Amazon rainforest, it illustrates how intra-generational inequity is a function of the metabolic rift, which could be mitigated by implementing Gandhi's *Swadeshi* principle. Next, by assessing the environmental degradation caused by agro-industrialisation, it demonstrates how inter-generational inequity arises from a metabolic colonisation of the future, proposing the adoption of Gandhi's Trusteeship principle in environmental governance mandates. The commentary concludes by calling for the deployment of Gandhian principles in conjunction with governance reforms that demonstrate a comprehension of capitalism's existential ramifications.

Keywords: *Capitalism, Metabolic Rift, Metabolic Colonisation, Marxism, Gandhian Economics*

1.0 Capitalism: A Time-Machine

Despite irrefutable science and promising policy mandates for mitigating climate change, governments, institutions, and society have failed to tackle the existential threat to life on the planet. Environmentalism today, paradoxically human-centric, has been restrained to maintain a neoliberal mentality, thus failing to foster change where it is actually imperative - in the capitalist economy.¹

While capitalist markets have catered remarkably to societal needs, they have simultaneously cultivated unsustainable patterns of consumption. In making human life on the planet convenient, they have made the planet's life uncertain. The market's energy requirement and (alarming) efficiency to meet consumer demand has overwhelmed planetary boundaries, and instead of dampening anthropogenic impacts, the natural system has started to amplify them. This weakening of the Earth's carrying capacity² is essentially reducing our species' already-limited lifetime in this intricately balanced environment. Although the progression of absolute time has remained incremental, capitalism has made the experience of relative time exponential due to the rate of technological, economic, political, social, and environmental change it has necessitated. Furthermore, owing to its global market systems, capitalism has differentially diminished the carrying capacities of various ecosystems and consequentially shortened their lifespans.³

Hence, I argue that capitalism is a time-machine⁴ that systematically creates a socially differential possession and dispossession of nature, generating intra-and inter-generational inequalities within populations by disproportionately diminishing the carrying capacities and lifespans of their ecosystems. The following commentary will be illustrated through a Marxist critique in conjunction with a Gandhian proposition. First, it examines Gandhian economic principles to serve as a grounding philosophy. Next, by analysing cash-crop cultivation in the Amazon Rainforest, it argues how intra-generational inequalities is a function of the metabolic rift. Later, it demonstrates how environmental degradation, resulting from agro-industrialisation, creates inter-generational inequalities owing to a metabolic colonisation of the future. Finally, it concludes with practical recommendations for future governance mandates and research agendas.

¹ **Capitalism:** An economic system that is based on an inherently exploitative economic logic. It indisputably subjugates and commodifies both nature and society, thereby concentrating power in the hands of an elite few. By socialising losses and privatising gains, it generates stark systemic inequalities in society, and hence represents a departure from Democracy.

² **Ecological Carrying Capacity:** The maximum population that an ecosystem can sustainably support without undergoing deterioration.

[^] "Carrying Capacity." Merriam-Webster. Accessed November 24, 2020. [https://www.merriam-webster.com/dictionary/carrying capacity](https://www.merriam-webster.com/dictionary/carrying%20capacity).

³ Owing to its excessive anthropogenic exploitation, an ecosystem's 'lifespan' is shortened when its carrying capacity is diminished as a function of an exhausted regenerative ability.

⁴ **Time-machine:** Capitalism differentially affects the lifetimes of consumer-and producer-ecosystems i.e., capitalist consumers preserve their ecosystems for longer by living at the expense of their supplier's ecosystems.

2.0 The Gandhian Philosophy

Capitalist markets are valuable social technology devised to generate economic profits by catering to societal needs and demands. Their neoliberal logic, however, maintains focus on market growth, profit maximisation, and selfish accumulation. To Gandhi, this mandate was alienating and destructive both for the environment and human spirit. Instead, he proposed an economic logic that was centered around humans, given our species' primal traits of intuition, morality, cooperation, and reciprocity. Therefore, in recognising that humans are not inherently greedy, but rather by virtue of being embedded in a system that compels such behaviour, he advocated for the economy to focus on prosperity, rather than profit.

Gandhi argued that constructed economic 'laws' should not be in conflict with the absolute laws of Nature. Acknowledging that the natural system is already intricately balanced, Gandhi demonstrated, through *Sevagram*,⁵ that human needs could be met without disrupting the system's cyclical metabolism. Accordingly, he championed decentralised economies that operated responsibly by respecting a localities' natural and social capacities.

Hence, Gandhi's ethos of non-violence also extended to the interactions between nature and society, prescribing sustenance through subsistence. The following discussion will probe two Gandhian economic principles - Swadeshi and Trusteeship, evaluating their potential to mitigate the fallouts of capitalism, as the Marxist critiques will effectively highlight.⁶

⁵ *Sevagram* (village for service), Gandhi's model self-sufficient and self-reliant village, was the central element of his developmental vision for post-colonial India. "Gandhi envisioned a non-statist model that devolved political power to village units, wherein through the moral development of individuals, a republic with economic self-sufficiency and political autonomy could be fostered. Gandhiji's 'enlightened anarchy' was to create a non-hierarchical federation of villages as opposed to the pyramid-structure of Western governance models." See *Independence ≠ Freedom: The Tragedy of India*, Ayan Kanhai Aman, 2020.

⁶ My understanding of the Gandhian philosophy, values, and principles has been informed by my familial history pertaining especially to my paternal grandfather, who was an anti-colonial nationalist and a close associate of Gandhi.

3.0 Living on Borrowed Time

Intra-generationally, capitalism deflects the environmental costs of a commodity onto the producer and their locality, while the consumer bears merely the financial costs of convenience. For instance, if a resident of New-York desires to eat steak, they could conveniently drive to or order from the nearest restaurant. However, the restaurant’s resource and energy-intensive supply-chain would commence with feed-production for the livestock, followed by cattle rearing, meat processing, distribution, and ultimately conclude with retailing to the consumer. Accordingly, the consumer’s effort to yield that steak, is exponentially surpassed by the supply-side’s i.e., the 625 calories a consumer would gain from their 250-gram steak⁷ are miniscule in comparison to the 66,682 calories expended in supplying it.⁸

The restaurant’s inter-continental supply-chain would most likely commence at soybean farms in the Amazon rainforest of Brazil - the 2nd largest soy-supplier world-wide, wherein 80% is destined to be animal feed.⁹ Consequentially, the Amazon rainforest is the world’s most deforested biome and given the current rates of deforestation, the WWF estimates that 27% of the Amazon will be encroached upon by 2030.¹⁰ This deforestation continues to be exacerbated, as the globalisation of the Amazon economy has made it increasingly responsive to market demands for soybean.¹¹ This has indisputably resulted in biodiversity loss, water contamination, Indigenous population displacement, and contributed directly to climate change given the Amazon’s pacifying influence on the global climate through carbon sequestration.¹²

So, while the consumer may be enjoying their multi-million-dollar view of the pristine Central Park from their penthouse on *Billionaire’s Row*, the Brazilian farmer may be deforesting and degrading the Amazon to grow more soybean, because that is what the market demands, and that is how the farmer secures food on their own table. Therefore, while a consumer enjoys the exploits of nature, they also diminish the primary producers’ ecosystem’s carrying capacity, and thus its lifespan. Hence, in adopting a Life Cycle Analysis perspective, one realises the inefficiencies and inequalities generated by the consumption-supply nexus.

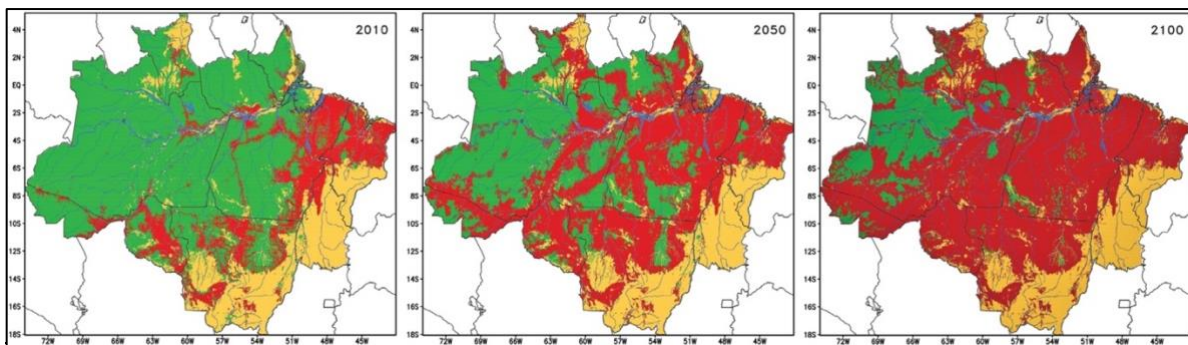


Figure 1: Projected Deforestation in the Brazilian Amazon Rainforest (Red)¹³

⁷ “FoodData Central Search Results: Beef.” FoodData Central. U.S. Department of Agriculture, 2020. <https://fdc.nal.usda.gov/fdc-app.html>.

⁸ Rotz, Alan, Thomas Battagliese, Kimberly R. Stackhouse-Lawson, and Senorpe Asem-Hiablie. “A Life Cycle Assessment of the Environmental Impacts of a Beef System in the USA.” *The International Journal of Life Cycle Assessment*. Springer Berlin, May 30, 2018. <https://link.springer.com/article/10.1007/s11367-018-1464-6>.

^{9,10} “Soy Agriculture in the Amazon Basin.” *Global Forest Atlas*. Yale University. Accessed November 24, 2020. <https://globalforestatlas.yale.edu/amazon/land-use/soy>.

¹⁰ “Deforestation in the Amazon.” WWF. Accessed November 24, 2020. https://wwf.panda.org/discover/our_focus/forests_practice/deforestation_fronts2/deforestation_in_the_amazon/.

¹¹ Nepstad, Daniel C., Claudia M. Stickler, and Oriana T. Almeida. “Globalization of the Amazon Soy and Beef Industries: Opportunities for Conservation.” *Conservation Biology* 20, no. 6 (2006): 1595-603. Accessed November 24, 2020. <http://www.jstor.org/stable/4124686>.

¹³ Silveira, Luiz Gustavo Teixeira da, Francis Wagner Silva Correia, Sin Chan Chou, André Lyra, Wesley Brito Gomes, Leonardo Vergasta, and Paulo Ricardo Teixeira Silva. “Reciclagem De Precipitação e Desflorestamento Na Amazônia: Um Estudo De Modelagem Numérica.” *Revista Brasileira de Meteorologia*. *Revista Brasileira de Meteorologia*, September 2017. <http://dx.doi.org/10.1590/0102-77863230009>.

A Metabolic Rift

Marx’s metabolic rift¹⁴ effectively illustrates how capitalism generates an intra-generational disparity between consumers and suppliers. Given their heavy dependence on extensive resource-supply systems, the urban-consumers’ degree of embeddedness in a capitalist society results in a larger ecological footprint. Hence, consumers live in capitalism’s ‘bio-bubble’, that enables the outsourcing of environmental exploitation, thereby externalising the true costs of their consumption onto the supplier.

Historically, from a binary core-periphery perspective, peripheral agriculture was scaled to support the immediate core, thus preserving a cyclical consumer-supplier metabolism. However, with the global capitalist markets and their optimisation fetish, agricultural supply-chains now span internationally.^{15,16} Moreover, neoliberal practises “de-territorialise” the agricultural supply-system, “stripping it of the truths that cohere to social practices, altering its socio-natural metabolism and extending it into transnational networks mediated through global markets.”¹⁷ Consequently, the core over-accumulates both capital and power to command a transformation of the ecological periphery into sites of environmental exploitation, thereby initiating an unsustainable societal metabolic rift.¹⁸

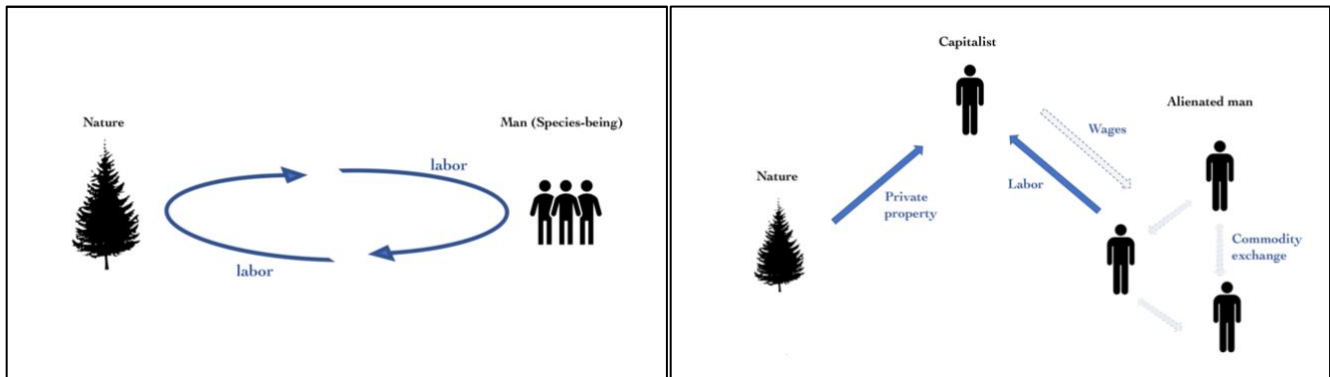


Figure 2: Cyclical Metabolism versus Rifted Metabolism¹⁹

¹⁴ **Marx’s Metabolic Rift:** Asserts that Capitalism has ‘estranged’ the bonds between man and nature by making both labour and nature its property. In doing so, individuals are alienated from each other, society, and the products of their own labour.

¹⁵ “Agriculture.” National Geographic Society, October 9, 2012. <https://www.nationalgeographic.org/encyclopedia/agriculture/>.

¹⁶ “The Changing Landscape of Agricultural Markets and Trade.” OECD. Accessed November 24, 2020. <https://www.oecd.org/agriculture/topics/agricultural-trade/>.

^{17,17} Ross, Alexander, and Heejun Chang. “Socio-Hydrology with Hydrosocial Theory: Two Sides of the Same Coin?” *Hydrological Sciences Journal* 65, no. 9 (2020): 1443–57. <https://doi.org/10.1080/02626667.2020.1761023>.

¹⁹ *Marx Metabolic Rift Lecture*. Video, 2020. <https://www.youtube.com/watch?v=tt-TCgmZWLA>.

Gandhi's Swadeshi Principle

Gandhi opposed capitalism's unrestricted industrialisation, deeming it to be inherently violent towards both nature and society.²⁰ His *Swadeshi* principle²¹ called for localism wherein all production was to be synchronised with levels of consumption, thereby respecting local ecological carrying capacities. The system was designed to foster a healthy exchange of commodities as opposed to ruthless market competition, hence enabling the self-sufficiency of societal units that engaged in market exchanges only for commodities that were not locally producible.^{22,23}

With aspects of current supply-chains being out of the consumer's sight, their exploitative ramifications remain out of mind. Therefore, demand takes precedence over actual supply capacities, consequently spurring an unsustainable cycle of over-extraction and over-consumption. Hence, by executing in its entirety the consumption-supply cycle within proximal peripheries, with the decentralisation of agriculture, the New-Yorker could enjoy a steak and simultaneously curtail their impact. This would minimise the ramifications of over-production and naturally regulate consumption with respect to the carrying capacity of supplier ecosystems. The Circular Economy system resonates extremely well with Swadeshi-ism. Especially in developing countries, that witness heavy resource constraints, such a system could encourage an "efficiency in production, sufficiency in consumption, conservancy of resources, and deficiency of wastes."²⁴

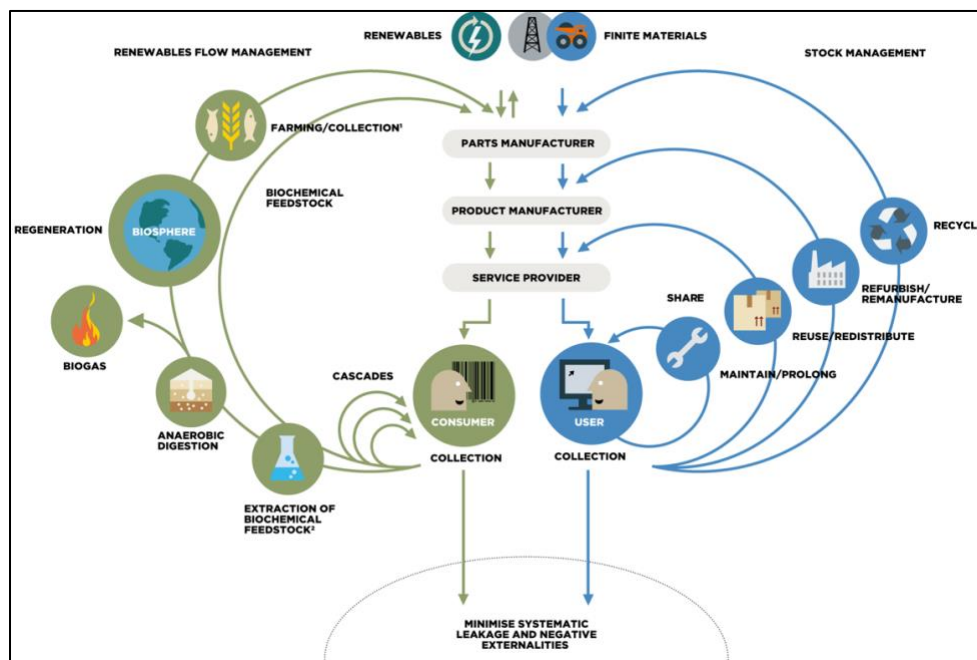


Figure 2: A Conceptual Model of the Circular Economy ²⁵

²⁰ Koshal, Rajindar K., and Manjulika Koshal. "Gandhian Economic Philosophy." *The American Journal of Economics and Sociology* 32, no. 2 (1973): 191-209. Accessed November 24, 2020. <http://www.jstor.org/stable/3485726>.

²¹ **Swadeshi:** "The spirit in us which restricts us to the use and services of our immediate, to the exclusion of the more remote."

²² Gandhi, Mohandas K. *From Yervada Mandir (Ashram Observances)*. Ahmedabad: www.mkgandhi.org. Accessed November 23, 2020. <https://www.mkgandhi.org/ebks/yeravda.pdf>.

²³ Prabhu, R. K., and U. R. Rao. *The Mind of Mahatma Gandhi*. Ahmedabad: Navajivan Pub. House, 2007. <https://www.mkgandhi.org/momgandhi/main.htm>.

²⁴ "Circular Economy in India: Rethinking Growth for Long-Term Prosperity." Ellen MacArthur Foundation. Accessed November 24, 2020. <https://www.ellenmacarthurfoundation.org/publications/india>.

²⁵ The Circular Economy Diagram. Ellen MacArthur Foundation, February 2019. <https://www.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail>.

3.0 An Inheritance from the Future

Inter-generationally, capitalism deprives future populations of a pristine ecosystem by over-exploiting the current, thereby impairing its regenerative capacity to sustain the subsequent generations. Due to widespread agro-industrialisation, *The United Nations Food and Agriculture Organisation* states that given the current rates of lithospheric degradation, the Earth's topsoil can support farming only for another 60 years.²⁶ Hence, although agro-industrialisation is the most financially efficient method to maximise yield, its lofty environmental costs are often ignored.^{27,28}

Owing to capitalism's inherent expansionary tendencies, all energies are directed towards boosting commodity production and consumption to maximise profits.²⁹ Products are shelved, even before consumers realise that they need them, based on projected rather than absolute demand. The *US Department of Agriculture* estimates that about 40% of America's food supply is wasted each year.³⁰ Accordingly, Marx's 'Crisis of Over-production' highlights how in pursuit of food security and economic growth, resultant ecological damages are neglected.^{31,32}

Agro-industrialisation exemplifies the Human Appropriation of Net Primary Productivity.³³ Between 1910 and 2005, the HANPP has increased from 6.9 GtC/y³⁴ to 14.8 GtC/y.³⁵ Therefore, by increasing per capita consumption amidst a naturally increasing population, the capitalist system has necessitated an anthropogenic transformation of the biosphere. Obviously, once pushed beyond their tipping point, these planetary systems will collapse en masse. Accordingly, Jevon's paradox quite aptly highlights the issues with deploying advanced efficiency-boosting technologies, without scrutinising them under an impact-assessment mandate.³⁶ Hence, given the nearly irreversible degradation, capitalism is only making human existence more contingent on exploiting nature, consequentially increasing the complexity of the processes that sustain society, further disrupting the natural system's intricate balance.

²⁶ "Only 60 Years of Farming Left If Soil Degradation Continues." *Scientific American*. Scientific American, December 5, 2014. <https://www.scientificamerican.com/article/only-60-years-of-farming-left-if-soil-degradation-continues/>.

²⁷ Driver, Kelly. "Industrialization of Agriculture." Johns Hopkins Bloomberg School of Public Health, August 5, 2016. <http://www.foodsystemprimer.org/food-production/industrialization-of-agriculture/>.

²⁸ Compared to subsistence farming practises, agro-industrialisation is exponentially resource-intensive in terms of its technological dependency, chemical requirement, water use, environmental degradation, and emission expulsion.

²⁹ Ho, Sally. "The Amazon Crisis Isn't Just About Beef, It's Also About Cheap Soy." *Green Queen*, August 28, 2019. <https://www.greenqueen.com.hk/the-amazon-crisis-isnt-just-about-beef-its-also-about-cheap-soy/>.

³⁰ Clark, Brett, and Richard York. "Carbon Metabolism: Global Capitalism, Climate Change, and the Biospheric Rift." *Theory and Society*. Kluwer Academic Publishers, August 1, 2005. <https://link.springer.com/article/10.1007/s11186-005-1993-4>.

³¹ "How Much Food Waste Is There in the United States?" USDA. Accessed November 24, 2020. <https://www.usda.gov/foodwaste/faqs>.

³² Dufalla, Jacqueline. "Agricultural Overproduction and the Deteriorating Environment." *E*, July 12, 2016. e-ir.info/2016/07/07/agricultural-overproduction-and-the-deteriorating-environment.

³³ The tragedy is that producers would rather discard surplus than donate it because distributive capacities are currently lacking and financial costs too high; it is cheaper to dump and maintains crop prices.

³⁴ Harris, Lana. "Here's Why Farmers Are Dumping Their Surplus Food Instead of Donating It." *wcnc.com*, April 14, 2020. <https://www.wcnc.com/article/news/health/coronavirus/farmers-dumping-surplus-food-instead-donating/275-990f4877-058c-4cf5-89d8-4bb3aa844be9>.

³⁵ **HANPP:** The anthropogenic appropriation of the productive capacity of land through harvesting or burning biomass and converting natural ecosystems in to managed lands.

³⁶ Dunbar, Brian. "NASA Scientists Get Fix on Food, Wood, and Fiber Use." *NASA*. NASA. Accessed November 24, 2020. https://www.nasa.gov/vision/earth/environment/0624_hanpp.html.

³⁷ Giga Tonne of Carbon per Year

³⁸ Krausmann, Fridolin, Karl-Heinz Erb, Simone Gingrich, Helmut Haberl, Alberte Bondeau, Veronika Gaube, Christian Lauk, Christoph Plutzer, and Timothy D. Searchinger. "Global Human Appropriation of Net Primary Production Doubled in the 20th Century." *PNAS*. National Academy of Sciences, June 18, 2013. <https://www.pnas.org/content/110/25/10324>.

³⁹ Dauvergne, Peter. "The Globalization of Artificial Intelligence: Consequences for the Politics of Environmentalism." *Globalizations* 18, no. 2 (2020): 285–99. <https://doi.org/10.1080/14747731.2020.1785670>.

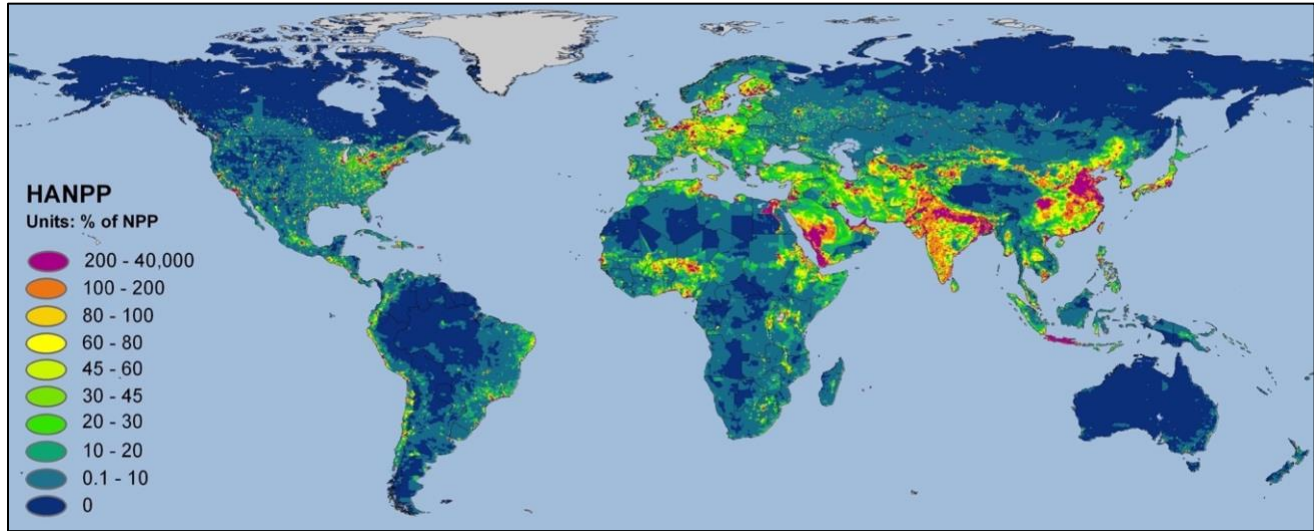


Figure 3: Human Consumption beyond Ecological Capacities (HANPP as a Percentage of Local NPP)³⁷

³⁷ Dunbar, Brian. "NASA Scientists Get Fix on Food, Wood, and Fiber Use." NASA. NASA. Accessed November 24, 2020. https://www.nasa.gov/vision/earth/environment/0624_hanpp.html.

A Metabolic Colonisation of the Future

In pursuit of ecologically insensitive growth, capitalism has colonised³⁸ the global commons to overclock³⁹ commodity production.⁴⁰ Adopting a Marxist perspective, I propose that this over-extraction of natural capital, beyond the regenerative capacities of ecosystems, constitutes a metabolic colonisation of the future. By failing to respect and operate within ecosystems' natural carrying capacities, capitalism's short-sightedness encourages limitless and unsustainable growth. Hence, the current consumption-supply nexus has “*cast shadows*”⁴¹ onto the future's unborn generations, symbolising a new manifestation of Environmental Racism.⁴²

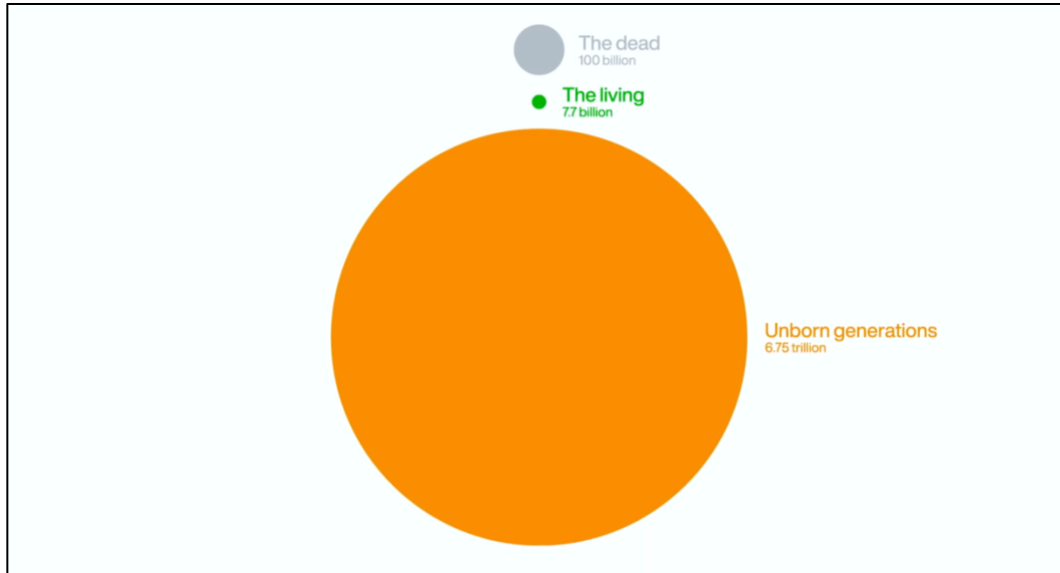


Figure 4: The Unborn Generations⁴³

³⁸ Colonisation refers to the “*treatments of natural environments that purposively change some components to render better exploitability, for the purposes of social metabolism, while still relying upon their basic self-regenerating qualities.*”

³⁹ Fischer-Kowalski, Marina, and Helmut Haberl. “Metabolism and Colonization. Modes of Production and the Physical Exchange between Societies and Nature.” *Innovation: The European Journal of Social Science Research*6, no. 4 (1993): 415–42. <https://doi.org/10.1080/13511610.1993.9968370>.

⁴⁰ Clark, Brett, and Richard York. “Carbon Metabolism: Global Capitalism, Climate Change, and the Biospheric Rift.” *Theory and Society*34, no. 4 (2005): 391–428. <https://doi.org/10.1007/s11186-005-1993-4>.

⁴¹ Dauvergne, Peter. *The Shadows of Consumption: Consequences for the Global Environment*. Cambridge, Mass: MIT Press, 2010.

⁴² Owing to their domestication and exploitation by humans (selective breeding, genetic modifications, etc.), numerous plant and animal species, chicken, corn, etc. have completely lost their natural evolutionary trajectory and potential.

⁴³ Krznaric, Roman. How to Be a Good Ancestor: The Unborn Generations . October 23, 2020. <https://www.youtube.com/watch?v=61hRq0D8Zcs>.

Gandhi's Trusteeship Principle

The Gandhian principle of Trusteeship⁴⁴ was devised in response to society's exponentially increasing material standards of living, positing that as long as capitalism's philosophy of absolute right of ownership and exploitation persisted, the resultant societal inequalities and ecological imbalances cannot be mitigated. Gandhi argued that the right of absolute possession allowed people to exploit and dispose resources endlessly, and hence failed to cultivate respect for the materials consumed. Moreover, it had become society's, "prime concern to convert materials, which are frequently exhaustible, into a means of self-enrichment."^{45,46}

Given how capitalism undermines the sacred value of all life on earth, Gandhi argued that society's governance of nature must evolve to reconsider humans as trustees of the planet.⁴⁷ Therefore, the notion of Trusteeship compels humans to act as stewards of nature wherein society must interact with it in a non-violent manner and ensure that the ecosystems are inherited by subsequent generations in a pristine condition. Recently, a similar philosophy has been endorsed through the revolutionary 'Hague Principles for a Universal Declaration on Responsibilities for Human Rights and Earth Trusteeship'.⁴⁸ It calls upon all humans to act as 'Earth Trustees' and may prove to be quite a promising step towards achieving social and ecological sustainability, if ratified and implemented effectively.⁴⁹



Figure 4: Gandhi's Model of Trusteeship⁵⁰

⁴⁴ **Gandhi:** "True economics stands for social justice; it promotes the good of all equally including the weakest and is indispensable for decent life. Trusteeship expresses the inherent responsibility of business enterprise to its consumers, workers, shareholders and the community and the mutual responsibilities of each to the other. To the extent that we command scarce resources, we are answerable to others."

⁴⁴ Deshpande, Arvind A. "Trusteeship in Practice," 2007. <https://www.mkgandhi.org/articles/trusteeship2.htm>.

^{45,46} Goyder, George. *Trusteeship: A Possible Solution to Problems of Power, Exploitation, Conflict, and Alienation*. Bombay: Leslie Sawhny Programme of Training for Democracy, 1980.

⁴⁷ Jana, Jaydev. "Unto Gandhi's Trusteeship." *The Statesman*, May 7, 2019. <https://www.thestatesman.com/opinion/unto-gandhis-trusteeship-1502752978.html>.

⁴⁸ "The Hague Principles for a Universal Declaration on Responsibilities for Human Rights and Earth Trusteeship." *Earth Trusteeship*, 2018. <https://www.earthtrusteeship.world/the-hague-principles-for-a-universal-declaration-on-human-responsibilities-and-earth-trusteeship/>.

⁴⁹ Initiative, Earth Trusteeship. "'Appeal' to Include Dialogue on the 'Hague Principles for a Universal Declaration on Responsibilities for Human Rights and Earth Trusteeship' in the Design Process of the 'Ad Hoc Open Ended Working Group towards a Global Pact for the Environment (OEWG)' and Its Follow-up." *UN Environment Document Repository Home*, April 3, 2019. <https://wedocs.unep.org/handle/20.500.11822/27976>.

4.0 Conclusion

Treating capitalism as a time-machine, this commentary has demonstrated that capitalism's ecological ramifications are often discounted therefore exposing its broader existential implications as an operating system. In the *Global Environmental Politics* discourse, the intra-and inter-generational inequalities created by capitalism signal the need for a reconfiguration of society's political and economic systems. Gandhi's decentralised model of development that calls for societal operation within local ecological limits through sustainable resource use, essentially alludes to choosing carbon advantage over comparative advantage.⁵¹ Accordingly, the deployment of Gandhian economic principles can be explored in combination with propositions like the *Ecological Democracy*.⁵² In maintaining a forward-looking mandate, environmental governance needs to be reformed to adopt the principle of *The Seventh Generation Decision Making*.⁵³ Moreover, future research agendas must focus on critical theories regarding innovation and technology to ensure genuinely beneficial impacts on nature and society.

As humans, we need to become present to how rare, unique, and incredible a product of evolution our species is. Despite our un-paralleled cognitive and collaborative potential, we operate in a myopic bubble with no collective ambition, even as a climatic threat challenges our very existence. It is critical for humanity to recognise that capitalism is a mere operating system, that needs to be rebooted given how its current manifestation is throwing the planetary system off-balance and undermining the very conditions that made human civilisation possible. Hence, to foster a stable climate with rich biodiversity, the global commons must be managed and governed in a way that promotes societal equity whilst respecting ecological boundaries.

⁵¹ **Carbon Advantage:** Producing goods for the consumer where instead of the producer's capital expenditure, the expulsion of emissions is the lowest.

⁵² **Ecological Democracy:** "As a critical project, it seeks to expose the complicity of 'actually existing liberal democracy' in perpetuating the ecological crisis. As a reconstructive project, it seeks to expand the fundamental coordinates of democracy – space, time, community, and agency – to bring them into closer alignment with an ecological imaginary that transcended national boundaries. "

[^] Eckersley, Robyn. "Ecological Democracy and the Rise and Decline of Liberal Democracy: Looking Back, Looking Forward." *Environmental Politics* 29, no. 2 (2020). <https://doi.org/https://doi.org/10.1080/09644016.2019.1594536>.

⁵³ **The Seventh Generation Principle:** "Based on an ancient Haudenosaunee (Iroquois) philosophy that the decisions we make today should result in a sustainable world seven generations into the future. Contemporarily, it focuses specifically on decisions about energy, water, and natural resources, to ensure that those decisions are sustainable for seven generations in the future."

[^] Joseph, Bob. What is the Seventh Generation Principle? Accessed November 24, 2020. <https://www.ictinc.ca/blog/seventh-generation-principle>.

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