

## Capitalist Social Relations and the Environment: A Hyena—Baby Gazelle Acquaintance

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### Abstract

*Despite playing a critical role in the survival of living beings, several empirical findings all around the world suggest that the planet Earth is now in a perilous state. Whilst acknowledging the influence of several superficial humanistic factors upon which the conventional discourses on the current environmental concerns have long been affixed, this analytical paper contends that such aspects are deficient in comprehending and remedying the problem. Contrarily, attempts to identify the underlying causes and cures of the environmental problem should recognise the modus vivendi of the prevailing capitalistic social relations, which serve as the basis for existing exploitative and environmentally damaging behaviours. It is against this standpoint that this paper uses both theoretical and empirical evidence informed by a metabolic rift theory to dismiss the prevalent illusory eco-capitalistic arguments that capitalism is not responsible for the current environmental problems in the world but only human activities. In order to address the current environmental problem, the paper proposes a systemic transformation wherein unorthodox forms of social interactions are oriented around satisfying the needs of both the environment and humans without jeopardising each other's worth.*

**Keywords:** *Environmental distress, Capital social relations, Eco-capitalism, Metabolic rift*

### Introduction

*“Capital social relationship and its thirst for profit without limits is destroying the planet...Climate change has placed all humankind before a great choice: to continue in the ways of capitalism and face extinction, or to start down the path of harmony with nature and respect for life” — (Kolin, 2023:78).*

In 2012, the world witnessed what was dubbed “one of the wonders of the World” in some quarters. While recording a cheetah hunt at the Queen Elizabeth National Park, Uganda, De Visser, a videographer, stumbled upon an unprecedented scene in which a lioness appeared to have adopted a baby gazelle after she had preyed on her mother. The footage shows a lioness gently caressing the orphaned calf, scooping it up by her scruff, and carrying it away so much like her own. Based on a couple of interviews with several animal conservationists, most hypothesised that the lioness’s motherly instincts kicked in after being confronted with the pitiful and powerless cub. Is that, however, what transpired? In an interview with the

BBC Wildlife magazine in New York in 2012, Craig Packer, an ecologist and head of the University of Minnesota's Lion Research Centre, commented:

... "Not at all. Everyone would have loved a wonderful tale about a big cat and a goat cuddling. In nature, however, the goat inevitably gets devoured. Cats are known to toy with their victims and might appear very kind-hearted while doing so; however, it always ends badly" ... (Wolchover, 2012:4).

According to Andrew *et al.* (2019), anyone who has ever researched on lions or observed their domestic cats at home chasing a mouse will recognise an incident depicted in the footage. Therefore, this episode would simply fall into one of the variants of the concept of cat-and-mouse, where a cat seizes its prey and toys with it until it either becomes jaded and leaves it or becomes hungry and eats it. They remarked that large cats like the lions might be remarkably compassionate with fragile and young prey when playing cat-and-mouse, but only to keep the victim breathing and prolong the experience. Thus, maybe, in this scenario, the lioness ultimately ate the baby gazelle, or maybe the lioness got distracted before becoming hungry, allowing the calf to wander off and die from starvation. Like Young and Wood (2017), he observed that no one pursues such stories with such zeal that they would explain to the world what happened in the end. But in any case, he insisted:

... "Although I have never encountered anything like this in my 40 years of working with nature, I am certain that this phenomenon could not have occurred between a hyena and the baby gazelle, in which the former is wildly and widely known for preying on weak animals and other animals' kills for easy meals" ... (Young & Wood, 2017:45).

This form of cunning relationship is analogised in this article to the capitalistic economic system and the planet Earth. While the significance of a well-balanced ecosystem cannot be overstated for the continued existence and resilience of life on planet Earth, the current state of the environment remains extremely concerning. Today, the world is grappling with a wide range of pressing environmental concerns, such as climate change, plastic waste, biodiversity loss, water and air pollution, and deforestation (UNEP, 2024). In spite of the adoption of numerous international and regional agreements<sup>1</sup> aimed at tackling these issues since the 1990s, many countries involved in such accords, particularly the highly industrialised ones, have made little progress in fulfilling their promises and taking meaningful actions (IPCC, 2023; WMO, 2023). Experts have cautioned that if this disregard

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<sup>1</sup> Among these international agreements are the Multilateral Environmental Agreements (MEAs), such as the Paris Agreement, the Kyoto Protocol, the International Tropical Timber Agreement (ITTA), the Convention for the Protection of the Ozone Layer, Convention on Persistent Organic Pollutants (POPS), the Convention and International Trade in Endangered Species of Wild Flora and Fauna (CITES), Ramsar Convention on Wetlands, the United Nations Convention to Combat Desertification (UNCCD), the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC).

persists, it may lead to a global environmental disaster, with unprecedented sea-level rise, extreme weather events like droughts and floods, and significant loss of biodiversity, among other devastating consequences. While many reasons have been offered regarding prevailing negligence, the two most dominating ones include the general disagreement on what causes environmental issues and the most appropriate measures to address them. While the conventional school of thought (liberals and eco-capitalists) contends that such problems are the results of human activities and, therefore, strict measures and education ought to be used to address the issues (UNEP, 2024; IPCC, 2023; United Nations, 2023; WWF, 2022), the critical school of thought (Marxian), on the other hand, objects to this idea as it does not explain the underlying cause of the phenomenon but only symptoms (Firmiano & Teixeira, 2024; Baer & Singer, 2023; Foster, 2013, 2000). They argue that the most appropriate way to understand the real causes and prescribe genuine remedies is to interrogate the mode of production from which such human activities are born, guided, entertained, mediated, and flourish, and in this case, *capitalism*.

However, despite the latter enjoying the domination, particularly in the academic domain and in developing countries (Scheidel, 2023; Saito, 2020; Foster, 2013), in the last decade, this viewpoint has strongly been called into question by the Wall Street science, which is grounded in the now-befitting eco-capitalism framework in the conceptualisation of ecological crisis in the world (Firmiano & Teixeira, 2024; Foster & Maskey, 2023; Foster, 2022; Scheidel & Schaffartzik, 2019). Such ecological criticisms have strongly come hard on the Marxian school of thought as it is conjectural, contextually unfitting, belonging to the traditional capitalist era with limited scientific innovations, and fundamentally lacking compelling empirical evidence to back up its arguments (Taffel, 2023; Firmiano & Teixeira, 2024; Bergamo, 2023; Foster & Maskey, 2023). Instead, the current discourses claim that eco-capitalism is morally furnished and sufficiently capable of utilising and consuming without destroying but conserving the environment because of the mutual gains each party enjoys (Bergamo, 2023; Taffel, 2023; UI-Durar et al., 2023). Essentially, this is an attempt to dismiss Marx's metabolic rift<sup>2</sup> theoretical conceptualisations of ecological crisis within the capital social relation as flawed, sanitise capitalism— (modern capitalism—use of high technology), or exonerate it from ecological scrutiny and culpability (Bergamo, 2023; UI-Durar et al., 2023). Despite such criticisms, however, no current study has tried to dismiss eco-capitalism's claims by offering a theoretical-empirical evidence-based study that they themselves (eco-capitalism ...etc.) fail to provide in their counter-arguments. What is available, so far, are specific studies which link a specific ecological issue with Marx's viewpoint suggesting its limited scope in its application, those which write about the metabolic rift but only in abstractionism, and other non-eco-capitalistic studies<sup>3</sup> which

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<sup>2</sup> John Bellamy Foster, along with his colleagues Brett Clark and Richard York, developed the Marxist approach to studying environmental issues using the concept of "metabolic rift" as both a theoretical and analytical framework. This work was greatly influenced by the contributions of Marina Fischer-Kowalski, Paul Burkett, and numerous others. This analytical theory is informed by Marx's renowned works, namely "*Preface to a Contribution to the Critique of Political Economy (1859)*", "*Capital: A Critical Analysis of Capitalist Production (1873)*", and "*Capital: The Process of Capitalist Production as a Whole (1909)*".

<sup>3</sup> See: Moore (2011, 2014, and 2015).

erroneously struggle to correct Marx's metabolic rift's analysis of environmental distress all of which none of them attempts to satisfactorily respond to current above criticisms of the eco-capitalists. This paper, therefore, combines the theoretical analysis and empirical findings drawn from a range of environmental issues to fashion a comprehensive understanding and analysis of the sources of current environmental distress<sup>4</sup>, thus discrediting the emerging eco-capitalism's ideology.

By closing this gap, this article would also indirectly respond to two other concerns in the socioecological sphere. These include, first, a newly emerging claim within the environmental sociology field that there exists a deliberate dearth of utilising the Marxian treadmill logic among contemporary sociologists in examining matters of political economy and its associated consequences (Turner, 2023; Hannigan, 2022) and second, this study heeds the recent call made at the 28th Annual United Nations Climate Meeting in UAE in December 2023 for environmental sociologists to actively and collaboratively participate in defining causes of environmental problems, given their unique interactions with the socio-cultural ecology instead of leaving it to environmental scientists and economists only as the norm dictates (Irfan, 2023). All the aforementioned issues will be simultaneously dealt with in this article through the use of the "metabolic rift" as a conceptual and analytical handle owing to its indisputable superiority in the conceptualisation of the phenomenon (Firmiano & Teixeira, 2024; Ul-Durar *et al.*, 2023; Foster & Maskey, 2023; Saito, 2020; Clark & Stefano, 2018) despite the criticisms.

Since Marxian-Eco-capitalism is an ongoing philosophical, theoretical and conceptual discourse addressing two dominant philosophically contradicting viewpoints and not a scientifically proven fact that needs no dismissal until further scientific findings, a persistent methodical confrontation and clarification is inevitable. Therefore, for those who question the continual use of either analytical framework in analysing environmental problems in the contemporary era, it is because of the emerging and continual advocacy of one school of thought over the other as far as the causes and remedies for ecological challenges are concerned. In the words of Antonio Gramsci (1891-1937)<sup>5</sup>, "*a constant falsity requires an equally constant response to defuse it from becoming a norm until the contradiction is resolved*" for the whole [...] community welfare" (In Kurtz, 1996:114). This explains the existence of various current studies either appraising or critiquing the metabolic rift's conceptualisations in understanding the environmental question.

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<sup>4</sup> The current discussion uses various ecological issues that have globally been linked to just human activities and practically links them with the metabolic rift theory that is continually being dismissed and challenged on the global stage for its consolidation and validity.

<sup>5</sup> Antonio Gramsci, an Italian journalist, activist, politician, and academic, gained recognition and admiration for his emphasis on and advancement of the significance of culture and education in Marx's theories of class, politics, and economy. He has exerted a significant impact as a Marxist intellectual who analyses the cultural and political control in "developed" capitalism. See Kurtz (1996).

## Methodology

This study followed a systematic literature review (SLR) method to identify, select and analyse the most relevant information regarding the research question. The rationale behind the choice of this method is that SLRs offer a thorough and clear summary of the available data pertaining to a certain topic or question and minimise the potential for bias, mistake, and omission in the selection and analysis of research by adhering to a strict and predetermined process (Reisch *et al.*, 2021). Therefore, in utilising the method, this study followed a strict process as follows:

The first phase of SLR concerned itself with defining the scope and the main objective of this paper. Being an environmental sociologist, the main interest of the author was to understand the trends and current issues in the socioecological and environmental discourse. One of the major observations was the predominance of the eco-capitalism model in the analysis of ecological and environmental crises against Marx's metabolic rift theory. This almost unopposed discussion romanticised eco-capitalism as the best alternative to ecological damages with very little to show for it while disapproving of Marx's analysis as unscientific and hollow. Therefore, the task was to discredit the eco-capitalism conservatory narrative with empirical evidence.

The second phase was to determine the inclusion and exclusion criteria. Sources of information were analysed according to a number of criteria. First, the sources had to be in line with the research question. Second, only scientifically obtained and argued information was considered. Third, information used was to be obtained from only reputable and trusted sources. Finally, although the author could not avoid using old publications owing to the subject's historical accounts and age, the author ensured that 90 per cent of the sources' dates go back no further than five years.

In the third phase, the focus was on identifying keywords that are related to the research question in order to place this study accurately. The search terms selected for this analytical paper consisted of the environment, ecology, development, sustainable development, environmental/ecological crisis or damage or distress or depletion, capital social relations, capitalism, planet earth, eco-capitalism, climate change, science, technology, natural resources, capitalist economy, and free-market economy. The keywords were refined by merging them using the logical operators AND/OR into a set of search strings, employing Boolean logic to improve the face validity and obtain the most narrowly defined and appropriate reading materials. In addition to database searching, a number of publications were located using a snowball method<sup>6</sup>. Each of the search terms used was selected due to their appropriateness and relevance to the research question.

The fourth phase involved determining the most appropriate database for conducting the search and specifying the timeframe of publications to be included in the review. Multiple databases were used to identify sources for this review. Initially, Google Scholar was

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<sup>6</sup> A number of relevant publications were located through the reference list of obtained relevant publications. The same search terms were used in this exercise.

utilised to take samples of the available publications. Regarding Google Scholar, broad search terms were initially used to establish a list of research-based and analytical papers, book chapters, books, and web-based publications. Initially, the author used the basic search of “Assistive Technology Efficacy”. From the titles of the publications derived from Google Scholar, the author was able to use a better list with more refined terms when utilising other databases. Through the University of Dar es Salaam, University of Dodoma, and National Library “Rod Library Search Databases”, the author used the most trusted humanities and social sciences databases such as ERIC, GALE, SAGE, SSRN, DOAJ, AJOL, ResearchGate, Web of Science, EBSCO, RefSeek, Semantic Scholar, Base, Jstor, and Scopus databases to search for relevant publications. In the process, the author also used the thesaurus function to provide narrower search options. The author was also able to consult with Rod Library research staff to assist in selecting search terms after a thorough discussion of what the research question entailed.

The fifth phase involved a selection and analysis of information from searched data. In collaboration with the inclusion and exclusion criteria identified in phase two above, during this process, the author first examined its credibility and validity in terms of how data was obtained, analysed, and used in the paper, looked for the extent and manner in which the environmental question has been explained, examined statements and impressions that were supporting or refuting the hypothesis and the reasoning and evidence provided, examined the nature of the methodology and theories used in arriving at such conclusions, and finally drawing patterns of similarity, difference, and uniqueness. Having considered all inclusion, exclusion, selection, and quality assessment criteria, a total of 146 relevant publications were generated, examined, and analysed, and only 81 contained the most relevant data needed.

In the sixth phase, data was extracted. During this procedure, the author systematically evaluated the necessary information from the studies to determine their eligibility and organised the material in a manner that facilitated the synthesis of the research and the formulation of conclusions. The procedure was carried out following predetermined protocols, specifically PRISMA, with the objective of extracting the title, author, year, journal, research question and specific objectives, conceptual framework, hypothesis, research methods or study type, and concluding remarks. Particular emphasis was placed on the content of the material (findings and discussion), the conceptualisation of the problem, and the evidence presented.

The last phase involved synthesising all the information extracted from the studies. Given the nature of the research question, all types of information—empirical and non-empirical—were important. However, only qualitative synthesis was performed as it is important to each set of data regardless of the nature without necessarily including meta-analysis (OSU-Health Science Library, 2023; Cumpton *et al.*, 2023). This information was compiled into a logical whole and supported by an analysis that provided a more thorough comprehension

of the body of evidence. The purpose of the synthesis was to give a broad overview of the characteristics and conclusions of the included studies; examine correlations between research, locate trends, and inquire into heterogeneity; explain how each and entirety of evidence relates to the issue in question; analyse and interpret the results robustness; analyse the whole body of evidence's advantages and disadvantages, including a cumulative evaluation of the risk of bias in each study; detect any gaps in the evidence; and where appropriate, contrast the review's conclusions with the conventional viewpoints.

### **The Conceptual and Analytical Handle: The Metabolic Rift**

Karl Marx (1818-1883) formulated an intricate metabolic analysis to evaluate socioecological links and circumstances. His understanding of history, based on materialism, was supported by a materialistic conceptualisation of nature. This formed the foundation for a comprehensive criticism of the capitalist system, encompassing both social and ecological aspects (Foster, 2000). Marx integrated the capitalist socioeconomic system into the broader biophysical world and specifically examined the matter and energy interchange between society and the environment (Foster & Burkett, 2016). In this endeavour, Marx (1975a:209) focused on scientific discoveries and debates and integrated the metabolism concept into his critique of 'political economy'. He explained that "metabolism refers to the natural process of production as the material exchange between humans and nature". He stated that there is an essential "metabolic interaction" between humans and the earth and that labour acts as a "process between man and nature, a process in which man, through his own actions, moderates, regulates, and manages the exchange of substances between himself and nature" (Marx [1887] 1976:283). Marx's innovative study on this matter incorporates a three-part framework comprising "the universal metabolism of nature," the "social metabolism," and the "metabolic rift" (Foster & Clark, 2016:104).

According to Foster (2013) and Marx [1861–1863] 1975b:54–66, "the universal metabolism of nature" is made up of particular cycles and processes that occur within the wider biophysical world, producing and regenerating ecological circumstances. The entirety of life, including human society, is a part of, dependent upon, and exists within this earthly ecosystem. Humans, through their engaging, productive lives and endeavours, establish a dynamic relationship with the natural environment around them (both the micro and macrocosms), requiring the exchange of matter and energy. Therefore, the interaction between humans and nature occurs through the social metabolism of humans in connection to the overall metabolism of nature. The nature of this relationship is influenced by the unique political-economic structure of labour and production in society throughout history. Nevertheless, each social relation—'*mode of production*' produces a unique social metabolic structure that impacts the exchange and interaction between society and natural systems. Therefore, the social metabolism produced under the capital social relations (*capitalism*) manifests itself in a distinct way compared to prior socioecological systems by specifically embracing and adopting an alienated form (Mészáros, 1995). The utilitarian pursuits of existence are moulded by the multiplicity and accumulation of capital. Sweezy (2004:86–93) elucidated that the capitalists, in their "quest for profit, are compelled to amass increasing amounts of capital. This pursuit serves as both their subjective-

objective goals and the driving force behind the entire economic system.” The necessities of capital accumulation and expansion are enforced upon nature, intensifying the stresses on ecological systems and the generation of waste, resulting in specific disruptions within the social metabolism as well as the broader universal metabolism, which encompasses different ecological cycles and processes.

The intensification and increasing complexity of the ‘social metabolic mechanism’ of capital demands entails a greater amount of energy and raw materials, resulting in a variety of ecological conflicts and divisions (Foster *et al.*, 2010; Burkett, 2006). Technological innovation is essential for capitalist growth since it helps streamline the labour process and lower costs through automation. While new technologies can enhance the efficiency of energy and raw material utilisation, they do not necessarily reduce the total demands on the biophysical environment. Efficient resource utilisation frequently leads to increased overall consumption of that specific resource.

Capitalism, being a dynamic system, deals with environmental challenges, such as scarcity or depletion of certain resources, by implementing a sequence of adjustments and technological solutions to sustain its growth. Environmental restrictions are tackled by integrating additional resources into the manufacturing process, relocating production, or innovating new technologies to enhance efficiency. Instead of resolving ecological conflicts, these changes typically give rise to new compounding issues, resulting in further disturbances to the circumstances of life, frequently on a broader magnitude (Foster *et al.*, 2010). Today, the pursuit of accumulating capital is causing significant disruption to the overall functioning of the planet, leading to a loss in biodiversity and pushing the globe towards a condition of extreme heat (UNEP, 2024). The current disconnected and estranged social metabolism interaction of capital accumulation generates severe and possibly irremediable adverse consequences that are eroding the foundations of existence.

Recently, apart from the eco-capitalism school of thought, which has been criticised for its lack of scientific evidence and reliance on deception, the metabolic rift school has faced strong opposition from Jason Moore—a historical geographer, sociologist and environmental historian. In a series of essays leading up to “Capitalism and the Web of Life” (2015), Moore aims to show that Foster and his colleagues perpetuate the fundamental flaw of Cartesian dualism. The evidence of their culpability is evident in their selection of conjunctions: they discuss the relationship between nature and society, the interplay between different spheres, and the ecological framework of capital. Moore suggests replacing the “and” with a “in.” He argues that the analysis should be read capital-in-nature, labour-in-nature, and so on—avoiding the erroneous bridge of nature/society as two separate entities. Similarly, he claims that it is important to discuss the interconnectedness between any two entities rather than simply referring to their metabolic relationship. Above all, it is crucial to recognise that capitalism itself functions as an ecological system. Through the creation of these intricate combinations of conjunctions, Moore presents his “world-



ecology” as a highly regarded dialectical framework within certain circles of academic discourses, particularly the radical ecology fraternity (Moore, 2011, 2014, 2015). However, the claimed analytical advantages are simply superficial, going beyond just a new terminology. For example, Moore criticises Foster and colleagues for their use of the term “interaction” to explain the connection between nature and society. He argues that this term assumes that the two can be separated, which is incorrect. According to Moore, we should instead inquire about how the two elements “fit together” (Moore, 2015:47). However, the same criticism can be applied to the selection of those specific terms. In order for the pair to dovetail, they must initially be distinct from one another. Moore himself appears compelled to use the unpleasant combination in phrases like “human and extra-human nature” and “the soil and the worker,” possibly because a language of constant hyphenation would be difficult to read (Moore, 2015:228). It definitely would not address any significant conceptual issues.

Despite facing challenges, the Marxist approach to studying environmental issues—“the metabolic rift”, has demonstrated superior levels of conceptualisation and analysis (Firmiano & Teixeira, 2024; Ul-Durar *et al.*, 2023; Foster & Maskey, 2023; Saito, 2020; Clark & Stefano, 2018). Marx’s triadic framework, which includes the “universal metabolism of nature”, the “social metabolism”, and the “metabolic rift”, has been fundamental in eco-socialist research over the past thirty years, focusing on historical and current environmental issues (Ul-Durar *et al.*, 2023:78). This conceptual analysis has been widely used to study environmental and ecological-related issues in connection with capitalism, including deforestation, marine resources depletion, global warming and climate change, pollution, and hydraulics, among many others (Firmiano & Teixeira, 2024; Longo & Clark, 2016).

From the metabolic rift analysis above, it is evident that a radical change in the socioeconomic relations which govern human productive lives is essential. Producers who are connected to each other must control and manage the way they use resources in line with the demands of the whole natural system while also meeting human needs in a way that can be maintained over time. Here, socio-economic interactions and production might be focused on metabolic repair, as well as the establishment of an unalienated world characterised by sustainable human growth.

### **Capitalistic Social Relations**

For over six decades, capitalism has dominated economic, cultural, political, and social development discourses, especially in emerging economies, most of which are in third-world countries (Zitelmann, 2023; Lynch *et al.*, 2019; Parisot, 2019). Its advocates believe that the system promotes further advancements in all sectors of development. It allows people to decide upon their consumption patterns, what to consume, and where to purchase and sell their produces rather than being dictated by the government. The presence of the latter is regarded as a breach of the UN-Human Rights Declaration. Its skeptics argue that the system has caused serious damage to human welfare and the environment worldwide, particularly in developing countries (Foster & Maskey, 2023; James, 2018). The

environment is one area where capitalism has had a negative impact. The capitalist system is a profit-driven economic model predicated on the principle of private ownership and control of the instruments and means of production, fundamentally, for maximising profits.

Instead of adopting central planning, the mainstream economy's supply and demand logic governs its output. Competition between producers and suppliers of goods and services is a common feature of this economic system. Other characteristics, such as the government's role in establishing the rules of engagement in the supply and production chains, vary depending on the form of capitalism. With the demise of the feudal economies, the system gained popularity and has since become one of the world's most prominent economic systems (Hayes, 2023; Adler, 2022). Wage labour and property rights are two pillars of capitalism that could be deemed foundations of representative governance. The system is typically linked to economic growth, with the market deciding upon production volume, targets, and prices rather than the government. In this economic setting, individuals also have the opportunity, power, and autonomy to produce goods and provide services in response to market demands, owing to private property rights.

One of its most fascinating characteristics that makes it efficacious is the fact that almost everyone's daily life today gravitates around its proper and improper functioning (Graafland & Verbruggen, 2022; Parisot, 2019), and it functions in a manner that is unfathomably incomprehensible to many. According to Johansen (2017:17):

*... "We are, to a great extent, unaware of this now worldly framework, much as fish are heedless of the water they swim in. It is capitalism's moral code, standpoint, frame of mind, and final intent that we integrate and acculturate to as we grow up. Unwittingly, we come to admit that covetousness, exploitative behaviours, and competitive traits among the countries, corporations, businesses, and ourselves are not only the norms and moral codes of our way of life but are, in fact, appropriate for society since they make our economy work efficiently" ...*

In its persuasive yet belligerent promotion of individuals' self-interests, capitalism has proved to be the most efficient and unique system compared to several other socio-economic systems, according to the quotation above. Avarice, selfishness, manipulation, exploitation, victimisation, competitiveness, and consumerism<sup>7</sup> that comprise some of the moral codes and behaviours required for a system's smooth maintenance and operation, as well as for individuals to prosper as members of society, are instilled into community members through the process of socialisation (Hayes, 2023; Ogbonna & Adeleke, 2021; Pollin & Epstein, 2021). It is substantially due to such intrinsic tenets that capitalistic social relations have been chastised for their primary concentration on profit and how this commitment has resulted in socio-economic injustice and exclusions, especially in the developing world.

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<sup>7</sup> The urge to acquire and accumulate yet more, mostly unconnected to needs or well-being.

Also, the system is condemned for putting much emphasis on consumerism as a way of life and critical to capitalism's sustainability and prosperity.

### **Capital Social Relations and Environmental Distress: A Theoretical Analysis**

The most fundamental question that the majority of environmentalists eschew interrogating is why there are so many environmental catastrophes worldwide, notwithstanding the level of the so-called "development"? They are mainly worried about the consequential factors, some of which are only tangentially related to environmental challenges. But what could be the root cause for all such happenings? Attempting to comprehend this question outside the capitalistic social relations where it exists presents a daunting task that certainly translates into nothing substantial until one delves into how conceptually and practically the existing capitalist social relations go about maximising their profits and fulfilling their self-interests. Multiple viewpoints have been rendered on the subject, but only a few have fundamentally offered a valid criticism of capitalistic social relations without proposing any viable means to re-govern and restructure the capitalist economy. This concern collaborates with Wright's (2019) reservations on the current efforts, arguing that both environmentalists and ecologists are not particularly skilled at interrogating fundamental questions, not to mention responding to such questions regarding the environmental quagmire in the world. He further claims that if such incompetency persists, it will be difficult to concoct a realistic and long-lasting remedy.

In the view of this article, however, what is widely acknowledged as global critical environmental problems are occasioned or mainly exacerbated by the functioning of capitalist social relations. Essentially, ecological concerns are not solely the result of human incompetence, ignorance, or insatiable wants. They do not emerge because capitalists are unaware of production morals and ethics. On the contrary, it is from nature and the inner logic of the capitalist social relations that underlie the economic, political, and social functions and upon which the environmental concerns ought to be explained and prosecuted.

Within capitalistic social relations, although the vast majority of the economically disadvantaged people care about sustaining and conserving a functioning ecological system, the ruling elites, who are the minority, are generally less thoughtful of the same, except when the dominant group (ruling elite) strives to accommodate the majority's aspirations to keep the system in place. Although global resources are owned and managed by a few politically and economically influential individuals and corporations, capitalism does not rely on central planning (Bruff, 2020; Parisot, 2019). Conversely, production remains morally chaotic, focusing on generating more profits rather than addressing basic human needs. A sizable proportion of production under capitalist social relations is superfluous and harmful and is unwilling and, therefore, unable to embrace long-term human needs (Hellwig, 2021; Nicholson, 2016). Moreover, essential resources necessary for sustaining human life, particularly for the larger population and their general welfare, are not distributed equitably within the capitalist economy, a framework that invariably gives birth to ecological concerns. The aforesaid sentiment was also shared by Lester Brown (2017), the director of the Worldwatch Institute:

... *“The food crisis in the South is an outcome of either inadequate or lack of access to, and poor distribution of resources available. Most of the arable and highly productive land is occupied by a few elites, bureaucrats, and business people who do not necessarily commit the resources to the betterment of the many poor who need it the most. The plight forces the growing necessitous population to compete for a scarce resource for survival, a state that mostly culminates in environmental damages that we are all witnessing in the region” ...*

Moreover, capitalism is never immutable but keeps changing in response to the masses’ designed needs. Such a social relation has existed for more than 200 years since the demise of the feudal economic system in Europe. Different from what was guardedly predicted by Karl Marx on its demise, the system has unprecedentedly transmogrified and progressed to its pinnacle—imperialism, which is closely linked to expansionism (globalisation) and hegemony (Ogbonna & Adeleke, 2021; Parisot, 2019). Owing to this new configuration, capitalists have been twisting and re-twisting the global social formations in consonance with what they deem appropriate. With a divide of the world into two regions—the developing and developed countries, the unequal distribution of wealth takes on a unique regional flavour, and the exploitation of both human and natural resources is mediated through such a geopolitical and economic framework.

Furthermore, under this economic logic, capitalism has invested heavily in dangerous and potentially catastrophic chemical weapons in its quest to transform and dominate the world. But highly relevant to the foregoing is the dangerous dais upon which wreaks havoc on the environment occurs while analysing, using, and testing such biochemical weapons. According to the 2018 Annual Report of the United Nations Environment Programme (UNEP), the process has had far-reaching cataclysmic effects on the locale where it befalls and the entire world.

... *“The use and air testing of biological and chemical weapons discharge large amounts of poisonous soot powder into the air. When soot reflects sunlight, it causes a cooling effect on the climate on a global scale. This condition has possibly been concealing a portion of the impact of carbon dioxide-induced global warming. In this event, the ozone layer gets damaged, the temperatures drop, and the production of essential staple crops supporting millions of people worldwide gets seriously hampered” ... (UNEP Annual Report, 2018:28).*

Besides having influential power over individuals’ and social groups’ undertakings and desires, the system dominates almost the entire social structure, which, in the process of production and reproduction, instinctively works hard to indoctrinate the entire community with capitalistic moral codes and norms, and one of these being possessing a “strong” sense of “individualism” (Foster & Maskey, 2023; Meina *et al.*, 2022). Individualism is an attribute that capitalism encourages and glorifies, an attitude that prioritises the interests of

a few, often economically advantaged, over those of the wider community or, simply, human beings. Given the unanticipated socio-economic circumstances that might affect their businesses in the production process, these interests are always oriented toward maximising profit in the shortest period (Hudson, 2023; *Ellie-Anne & Rick, 2021*; Lynch *et al.*, 2019). For example, most entrepreneurs place a high value on short over mid and long-term gains in their activities. In some extraordinary cases, many prefer a maximum of five or even up to ten years (Stephens, 2017). Because of unforeseen operating conditions and environments (such as pricing of essential materials, production costs, tax regimes, competition, and political instability, among others), as well as the pressure from speculators pursuing shorter-term gains, it is, therefore, considered conventionally normal, for they should operate in this manner. As a result, they behave in a way that is mostly oblivious of the ecological constraints on their end gains or as if they would never experience a finite supply of natural assets for their endeavours.

India, Brazil, and the Democratic Republic of the Congo, whose natural resources are almost at extinction level, provide a typical demonstration of the aforesaid scurrilous characteristic of the system. Instead of promoting and facilitating human development, capitalists in the name of investors have significantly contributed to accelerating the depletion of natural resources in such countries, thereby deploying highly destructive means of extraction and voraciously decamping into several mineral potential sites through political patronage. Assuming that each capitalist is obsessed with an appetite for maximising gains no matter what, collectively, this could potentially have tremendous effects on the environment and the livelihood system in general. Under such an exploitative framework, no plausible mechanisms exist to prioritise and organise under the capitalist economy, which is inherently characterised by a lackadaisical high demand for natural resources against any odds.

The well-documented decline of several aquatic species all around the world, particularly in the developing world, exemplifies how the drive for profitability and personal interests eclipse communal logic and needs. For instance, to obtain a huge catch for whole and retail selling, short-term gains and self-interest goals have always preceded large-scale fishers' rationality, particularly when it comes to how much to fish, what size to fish, how to catch fish, where to fish, which species to fish, how to process fish and the like. It is in this process that complicated and sophisticated yet enormously destructive gears, such as the use of bottom trawlers, have been employed. As a result, fishing resources are facing unparalleled depletion with potential extinction. Only a handful safeguards the "common good" under capitalistic social relations (Foster & Maskey, 2023; Lynch *et al.*, 2019; Daniels, 2019; Marx, 1906). The government and societies are generally fragile in a political and economic system based solely on personal gains for accumulating capital and assets (Daniels, 2019), a situation commonly known as "the tragedy of the commons"<sup>8</sup>.

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<sup>8</sup> "The tragedy of the commons" is an econometric notion of a situation in which ordinary users behave rationally and autonomously toward their own ego and gains while diminishing a shared resource in a way that is compatible with the greater good of all community members. —See Hardin (1968).

Furthermore, capitalism philosophy generally equates human development with growth (Hudson (2023; Foster & Maskey, 2023; Antonio, 2019; Susan, 2018). Increased levels in markets, technology, industrialisation, investments, Gross Domestic Product (GDP), and per capita, among other empirical variables, are all considered indices of development in this framework. In its viewpoint, a thriving economy is one in which production is undertaken in larger quantities and with a high level of technology and capital investment (Foster & Maskey, 2023; Hudson, 2023; Cust *et al.*, 2022). All material and non-material resources are fully exploited, leading to high productivity, efficiency, per capita, and thus, GDP production. Depending on the form of political formations and arrangements of the day, this sort of growth typically draws little or no distinction between constructive and destructive actions. Rather than separating the benefits and risks as a meaningful indicator of progress, this form of progress lends a positive connotation to all transactions and operations and thereafter adds it to the net worth. All natural resources contain no value unless they join the financial domain and acquire the financial value, in other words, until they are consumed (Cust *et al.*, 2022). For instance, giant trees in a forest that provide animals and humans with countless benefits, including shelter, water, windbreaker, shade, medicine, food, and rain, are worthless to the GDP until they are turned into timber that will be auctioned and given a value.

Following that, the GDP is never called to account owing to the destruction of the environment, extinction of species, and disruption of various ecological functions resulting from its irrational drive for growth and ever-lasting expansionism. As a result, the GDP directly contributes to the exhaustion of finite natural resources by focusing on consumption rather than the people's well-being, which includes the social, psych, political, cultural, and economic variables (Emmanuel& Elizabeth, 2018).

Capitalism is not a mere economic ideology that informs how efficiency in production and services provision ought to be realised largely for-profit, as some classical economists such as David Ricardo and Thomas Malthus widely suggest. It is also a scheme that shapes social, political, and legal structures to validate and sustain a system of capital formation and accumulation that fundamentally entails, in its eventuality, the extraction of natural resources at their extinction levels. Today, most analysts and spectators can effortlessly observe the suspicious and nefarious ties between business interests, politics, and laws (Global Witness, 2019; Adams, 2018; Cooper, 2018). Corruption is one example, but there are many less obvious types, such as purchasing alliances, pledging for political support, financing social and public gatherings, buying access, lobbying and the like. Due to the sheer direct tangible benefits that political elites derive from such relationships, they gradually regard themselves as part of the system and, as a result, become advocates for it. Elected elites gradually transform into political entrepreneurs and capitalists' brokers as a result of this disingenuous relationship. Their moral servitude has always been excused by their re-elections, which is ostensibly in the people's best interests. The political class and

individuals are at all times making concerted attempts in the halls of justice to safeguard the capitalists' and private interests.

... "As corporations expand or begin to saturate, they will always search for new markets elsewhere to sell their goods and services. With the help of their governments, these corporations work tirelessly on behalf of corporations and countries' interests to secure entry, access, and control over vital natural resources like a variety of minerals. Developing countries are in the middle of a land-grab phenomenon, as private capital and powerful governments commit billions to gain control of millions of acres in developing countries to set up various types of machinery and plants to produce biofuel feedstock crops and food for their home and world markets. Today, multinational corporations scratch the world to find investing opportunities and resources anywhere they can, exploiting cheap labour in these countries, thus creating more divisions rather than reducing them. The outcome is more voracious exploitation of nature" ... (Adams, 2018:11).

The proposed critical metamorphic stance in interrogating, understanding, and tackling environmental ailments would have been hyperbolic and sadistic if the average population that practically relies upon the environment had a full mandate of the environment and activities thereon in lieu of the capitalists and the comprador elites and governments. Such elements have a solitary purpose of making short-term gains and then moving on to other exploitation locations, all in the pursuit of development, leaving devastation in their wake and jeopardising humankind's and the ecosystem's long-term survival. Given the influential power of capitalists over social institutions (religious, family, and academic institutions), politics, the military, the economy, media, and the state, introducing ideas that will never be realised is futile. Proposing and enacting substantial reforms that disapprove the conventional capitalistic norms is exceptionally challenging. As a result, implementing sustainable, sensible, and environmentally sound policies would be incredibly difficult.

### **The Consequences of Capital Social Relations: An Empirical Overview**

In an attempt to validate the claims advanced by the metabolic rift's conceptualisation of the underlying cause of the socioecological crisis in the current capital social relations, an empirical discussion on the state of the environment focusing on the ten most cited ecological and environmental problems is offered in this section. The discussion fundamentally utilises the findings and conclusions of experts and institutions of international repute. This attempt serves one important function. Since eco-capitalism and similar other contemporary ecologists and environmental scientists accuse Marx's metabolic rift analysis as conjectural with no scientific basis to prove its assumptions, the usage of the information provided by such globally and mostly western-informed bodies is thought to be critical for credibility purposes. The environmental areas of concern include global warming, biodiversity loss, plastic pollution, deforestation, air pollution, ocean acidification, agriculture, fashion and textile waste, overfishing, and soil degradation. A discussion of each of such environmental issues is provided in the subsequent sections, respectively.

According to the United Nations Environment Programme [UNEP] (2024), the year 2023 had the highest temperatures ever recorded, with world average temperatures surpassing pre-industrial levels by 1.46C. In addition, atmospheric CO<sub>2</sub> levels, which were relatively stable at roughly 280 parts per million (ppm) for almost 6,000 years, have already surpassed 420 ppm, exceedingly more than twice their pre-Industrial Revolution levels in the 19th century. The World Meteorological Organisation (WMO) in 2023 and the Intergovernmental Panel on Climate Change (IPCC) in 2022 have stated that the consistent yearly rise in emissions is a direct consequence of the combustion of fossil fuels for transportation and electricity production, as well as industrial activities, deforestation, and agricultural practices.

Undoubtedly, this is one of the most significant environmental issues of our generation, resulting from the operations and efforts of social connections driven by profit maximisation and mass consumption. Furthermore, the report argues that the climate issue is a consequence of other market failures, including the inability to raise the cost of activities that release greenhouse gases. This circumstance has prompted an increase in activities that release greenhouse gases. Currently, 27 nations worldwide have introduced a national carbon tax, including many countries in the European Union, Argentina, Ukraine, Japan, Singapore, and Canada. Nevertheless, the International Institute for Sustainable Development [IISD] (2023) and the 2021 OECD Tax Energy Use study argue that the existing tax systems do not sufficiently correspond to the emission characteristics of different energy sources.

According to the Food and Agriculture Organization [FAO] (2022), over the past five decades, there has been a significant increase in irresponsible human consumption, unregulated urbanisation, and global trade, leading to the depletion of Earth's resources beyond its natural capacity for replenishment. In accordance with the World Wildlife Fund [WWF] (2022) report, the populations of birds, fish, mammals, amphibians, and reptiles had, on average, decreased by almost 70 per cent between 1970 and 2019. The report ascribes this decline in biodiversity to many sources, with the primary cause being land-use alteration, specifically the transformation of ecosystems like mangroves, grasslands, and forests into agricultural systems. Rare animal species, such as seahorses, sharks, and pangolins, among others, are greatly impacted by both legal and illicit wildlife trafficking, resulting in their serious endangerment. Over 500 terrestrial animal species are currently facing imminent extinction and are projected to disappear within the next two decades. The IUCN (2021) states that the current pace of loss would have required thousands of years if it were not for irresponsible human-induced degradation of nature.

Over two million tonnes of plastic were produced annually worldwide in 1950. This annual output surged to 419 million tonnes by 2020, aggravating the environmental plastic waste problem (IUCN, 2023). Approximately 14 million tonnes of plastic enter the ocean annually, endangering the ecosystems of wildlife and the creatures that call them home,



according to the IPCC (2023) and IUCN (2023) reports. The reports warn that by 2040, this catastrophe will have grown to 29 million metric tonnes annually if systemic socioeconomic transformations from which this transactional demand is anchored do not occur. Given that synthetic material takes 400 years to decompose, adding microplastics to this estimate could result in an ocean with 600 million tonnes of plastic by 2040, making it not only one of the greatest environmental issues of our time but also a major market failure.

Every hour, an area of woodland equivalent to 300 football fields is deforested. If this phenomenon continues at its current rate, it is projected that by 2030, the Earth's forest ecosystems will have been reduced to just 10 per cent of their current size. If this trend persists, all forests may disappear within the next century. Indonesia, the Democratic Republic of Congo, and Brazil are now facing the most significant rates of deforestation. The Amazon, which covers around 6.9 million square kilometres and represents roughly 40 per cent of the South American continent, is the biggest rainforest in the world. It is renowned for its exceptional biodiversity, housing around 3 million species of animals and plants. Despite attempts to save forested areas, there is still widespread and authorised destruction of forests, with about one-third of worldwide tropical deforestation taking place in the Amazon Forest. This amounts to an annual loss of 1.5 million hectares. Annually, a staggering 10 million hectares of trees are being deforested worldwide to accommodate agricultural activities and production of paper and timber for several purposes, such as building construction, furniture manufacturing, tool production, recreational equipment, and the creation of other home products (WWF, 2022).

Outdoor air pollution is one of the major environmental issues of our day. Nine out of ten people breathe air that includes high levels of pollutants, according to data from the World Health Organisation [WHO] (2023), and between 4.2 and 7 million people are thought to die as a result of air pollution annually. The leading causes of air pollution are motor vehicles and industrial sources, emissions from biomass burning and dust storms leading to poor air quality. UNEP (2024) reports that life expectancy is reduced by around 5 years in South Asia, one of the world's most polluted regions, due to air pollution. In Europe, a report by the European Environment Agency [EEA] (2023) revealed a concerning finding: over half a million individuals residing in the European Union succumbed to health complications caused by exposure to toxic pollutants in 2021.

The increase in global temperature has impacted both the Earth's surface and the primary factor contributing to ocean acidification (FAO, 2022; IUCN, 2021). Even the slightest alteration in the pH scale can exert a substantial influence on the ocean's acidity (EEA, 2023). Ocean acidification has profound effects on marine ecosystems and animals, causing irreversible declines and changes in the quality of their habitats and disrupting food webs. One significant consequence of acidification is the occurrence of coral bleaching, which leads to the subsequent loss of coral reefs. Coral bleaching is a consequence of elevated ocean temperatures that disturb the mutualistic association between coral reefs and the algae residing in them, resulting in the expulsion of the algae and the subsequent loss of the reefs' inherent, vivid hues. According to the projections from IUCN (2023) and WWF (2022),

coral reefs are projected to face the imminent threat of full extinction by the year 2050. High atmospheric CO<sub>2</sub> gas concentrations from burning fossil fuels such as oil and coal—which have recently grown at an unprecedented pace due to contemporary materialistic lifestyles and other energy consumers—are the primary cause of ocean acidification (IUCN, 2023).

The global food system has been found to contribute as much as one-third of the total amount of greenhouse gases generated by humans, specifically from fisheries, livestock, and crop production (IPCC, 2023; WHO, 2023). The application of fertilisers in the latter results in the emission of greenhouse gases, particularly nitrous oxide. About 60 per cent of the world's farmland has been devoted to livestock farming, although accounting for just 24 per cent of meat consumption in the world. Agriculture encompasses a significant expanse of land and also utilises a substantial quantity of freshwater, which is one of the prominent environmental issues today. Although grazing pastures and arable fields only make up one-third of the Earth's land surfaces, they utilise a significant 75 per cent of the world's finite freshwater supplies. Similarly, according to FAO (2021), around 1.3 billion tonnes of food, which is one-third of the food meant for human consumption, is lost or wasted. This quantity is sufficient to provide sustenance for a population of 3 billion individuals. Food loss and waste contribute to almost 25 per cent of carbon dioxide emissions annually. If food waste were a nation, it would rank as the third-biggest producer of greenhouse gas emissions after the United States and China. Scientists and environmentalists have consistently cautioned that it is imperative to reconsider our existing food production and consumption systems as they are unsustainable, irresponsible, and ecologically damaging.

As per UNEP (2024), the fashion and clothing industry has experienced a remarkable surge in global demand, resulting in it being responsible for a significant portion of global greenhouse emissions. This has positioned it as one of the most pressing environmental challenges of our era. The fashion industry alone is responsible for emitting more greenhouse gases than the shipping and aviation sectors combined. In addition, the global production of textile-related waste is projected to increase from a projected 92 million tonnes per year to a staggering 134 million tonnes per year by 2030. Unwanted clothing and textile-related waste, much of which cannot naturally decompose, is often dumped in garbage dumps, whereas microplastics from materials like acrylic, polyamide, nylon, polyester, and other synthetics can seep into the earth's crust and water sources nearby. An enormous quantity of clothing textiles is also dumped in developing nations, for example, in the Atacama Forest (the driest desert in the world) in Chile, where at least 35,000 tonnes of textile waste from different nations is left to decay. Out of the staggering number of garments produced annually, a significant portion sadly finds its way to landfills. This pressing concern is further intensified by the continuously expanding fast fashion industry, where companies depend on the rapid and inexpensive manufacturing of low-quality garments to keep up with the latest trends. Although the United Nations Fashion Industry Charter for Climate Action [UNFCCC] (2021) outlines the commitment of fashion and

textile companies to achieve net zero emissions by 2050, a significant number of businesses worldwide have not yet taken steps to acknowledge their impact on climate change.

More than 3 billion people worldwide depend on fish as their main protein source (FAO, 2022). Approximately 12 per cent of the global population depends on fisheries for their livelihoods, with 70 per cent being small-scale artisanal fishers who depend heavily on fishing gear, which, unfortunately, causes significant damage to marine resources and the environment in the event of eking out their living. The other category, often overlooked in discussions on marine resource depletion, consists of large-scale fishers that utilise advanced technology yet highly detrimental fishing gears and tactics, such as bottom trawling. Trawling decimates the natural habitats by effectively excavating the seabed. In the process, bottom trawling causes a significant impact on the entire ecosystem, often destroying the entire marine environment's food web. This indicates that the marine resources stock is diminishing at a rate that exceeds its replenishment. Furthermore, the ecological effects of overfishing and illegal fishing are significant. These include heightened levels of algae in the water, the devastation of fishing communities, the pollution of the oceans, and a severe loss of biodiversity. Based on the Global Fishing Index [GFI] (2022), a thorough report on the condition of marine fisheries across the globe reveals that approximately half of the global fish stocks have declined to less than 40 per cent of their original population before fishing. This discovery is significantly greater than the previous worldwide estimation of 34 per cent.

Soil serves as the fundamental basis for all living forms on our planet. It supplies essential nutrients and water required for plant growth. It has a significant function in carbon storage and water filtration. Optimal soil health is crucial for maintaining the well-being of our planet; however, this attribute is compromised by a multitude of issues, such as commercial farming, deforestation, and climate change, among others. According to UNEP (2024) and the United Nations (2023), approximately 40 per cent of the Earth's soil is in a state of degradation. Soil degradation encompasses the depletion of organic matter, alterations in its structural quality and form, and a decrease in soil fertility. This degradation is frequently caused by agricultural methods, such as the use of harmful pesticides and pollutants and industrial fertilisers to achieve high crop yields. If current corporate practices persist until 2050, UNEP predicts that an area nearly equivalent to the South American continent will suffer further degradation. The report further cautions that unless the global community alters its irresponsible behaviours and intensifies efforts to safeguard soil health, the food security of billions of individuals globally will be irreparably jeopardised.

Clearly, when one examines what experts have claimed to be the causes of each of the environmental problems discussed above, it all boils down to capital social relations' inherent characteristics—capital accumulation at any cost, profit maximisation, mass consumption, competition, insatiability, and private over communal ownership culminating into a *metabolic rift*. The current reluctance of highly industrialised countries (HINs) to adopt environmental and climate change accords is not caused by a lack of comprehension of the scientific facts or inadequate financial resources, as suggested by certain eco-

capitalists. Instead, it is mostly motivated by the fear of economic repercussions, such as diminished sales, manufacturing, consumption, employment, and revenue, as well as intense economic competition among these nations. They are concerned that implementing mitigating measures and actions could destabilise their economies and diminish their global influence and power, thus confirming the validity of the *Metabolic rift* theory. Suffice it, therefore, to say that without changing the nucleic of the system upon which environmental sufferings are harboured within and emanate from but only tinkering with the names—(for example, eco-capitalism) and its superficial characteristics, the world will continue experiencing such unprecedented environmental miseries.

### **Conclusion**

The preceding analysis emphasises that the ongoing environmental crisis cannot be remedied using the same thinking that produced it. This syllogism is crucial because the system's goal for perpetual capital accumulation, which translates into an economy that constantly and yet exorbitantly expands fundamentally for-profit gains while causing damage to the planet on a broader scale, is practically unsustainable. To end prevailing capitalistic-induced ecological challenges, we must return to the economics hostile to unsustainable growth. If global production continues to rise, and the people and governments in the so-called less industrialised countries attempt to emulate developed countries' growth and developmental framework, environmental deterioration shall inevitably sustain and ultimately exceed the earth's carrying capacity. Therefore, the shift to a healthy ecological system rooted in the "development for all" and common social interactions is imperative. This economic and cultural transformation pact is not expected to be an easy descend, but a worthwhile long and winding endeavour.

### **Declaration of Competing Interest**

The author declares that no funding was received to assist with the preparation of this manuscript.

### **Acknowledgement**

I am grateful to several colleagues at the University of Dodoma (UDOM) and the reviewers for their critical reviews and expertise on the subject in earlier drafts and after the submission, respectively.

### **References**

- Adams, F. (2018). *The Political Establishment*. New York: Oxford University Press.
- Adler, P. S. (2022). Capitalism, Socialism, and the Climate Crisis. *Organization Theory*, 3(1).

- Andrew, S., Freeman, A., & Faustino, D. (2019). African Lions Prey Capture. *Journal of Animal Ecology*, 88 (1), 609–622.
- Antonio, J. (2019). *Gains, Assets, Production, and Investment: The Principles of Development*. Cambridge, Mass.: Harvard University Press.
- Baer, H. A., & Singer, M. (2023). Planetary Health: Capitalism, Ecology and Eco-Socialism. *Capitalism Nature Socialism*, 34(4), 20–38.
- Bergamo, J. N. (2023). Pandemic Capitalism: Metabolic Rift, World-Ecology Crossing Dialectical Biology. *Historical Materialism*, 31(1), 93-121.
- Brown, R. L. (2017). *Full Planet, Empty Plates: The New Geopolitics of Food Scarcity*. New York: WW Norton, 2017.
- Bruff, I., & Tansel, C.B. (eds) (2020). *Authoritarian Neoliberalism: Philosophies, Practices, Contestations*. Abingdon: Routledge.
- Burkett, P. (2006). *Marxism and Ecological Economics*. Leiden, The Netherlands: Brill.
- Clark, B. & Stefano B. (2018). Land- Sea Ecological Rifts: A Metabolic Analysis of Nutrient Loading. *Monthly Review*, 70(3): 106– 121.
- Cooper, M. (2018). *Corporations and Governments: Capitalism in Action*. Salem Mass.: M&M Scrivener Press.
- Cumpston, M. S., Brennan, S. E., Ryan, R., & McKenzie, J. E. (2023). Synthesis methods other than meta-analysis were commonly used but seldom specified: survey of systematic reviews. *Journal of Clinical Epidemiology*, 156, 42-52.
- Cust, J., Rivera-Ballesteros, A., & Zeufack, A. (2022, September 18). *The Dog That Didn't Bark: The Missed Opportunity of Africa's Resource Boom*. Policy Research Working Paper 10120, World Bank, Washington, DC.
- Daniels, N. (2019). *Capitalism and the Cultural Hypocrisies*. New York: Basic Books.
- EEA (2023). *Air pollution in Europe: 2023 reporting status under the National Emission Reduction Commitments Directive*. Copenhagen, Denmark.
- Ellie-Anne, J. & Rick, S. (2021). Neoliberalism and the Environment: Are We Aware of Appropriate Action to Save the Planet and Do We Think We Are Doing Enough? *Earth*, 2 (2), 331–339.
- Emmanuel, A., & Elizabeth, L. (2018). *Free Market Economy and Natural Resource Management Efforts in the South*. London: Zed Books
- FAO (2021). *Agri-food Systems and Land-Related Emissions: Global, Regional And Country Trends—2001–2021*. Faostat Analytical Brief 73. Rome, Italy.

- FAO (2022). *The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation*. Rome, Italy.
- Firmiano, F. D., & Teixeira, P. M. R. (2024). Metabolic Rift and Structural Crisis of Capital: The Productive Specialisation Pattern Based on Commodities and the Progressive Elimination of Ecological and Natural Resources in Brazil. *Latin American Perspectives*, 0(0).
- Foster, J. B. & Maskey, M. (2023). Marxian Ecology and Sustainable Human Development. *Monthly Review*. 75 (7).
- Foster, J. B. & Burkett, P. (2016). *Marx and the Earth*. Leiden, The Netherlands: Brill.
- Foster, J. B. & Clark, B. (2016). Marx's Ecology and the Left. *Monthly Review* 68(2): 1–25.
- Foster, J. B. (2000). *Marx's Ecology*. New York: Monthly Review Press.
- Foster, J. B. (2013). Marx and the Rift in the Universal Metabolism of Nature. *Monthly Review* 65(7): 1– 19.
- Foster, J. B. (2022). The Return of the Dialectics of Nature: The Struggle for Freedom as Necessity. *Historical Materialism*, 30(2), 3-28.
- Foster, J. B., Clark, B., & York, R. (2010). *The Ecological Rift*. New York: Monthly Review Press.
- GFI (2022). *Assessing the Sustainability of the World's Marine Fisheries*. Minderoo Foundation, Australia.
- Global Witness, (2019). *Enemies of the state? How government and business silence land and environmental defenders*. Global Witness, London.
- Graafland, J., Verbruggen, H. (2022). Free-Market, Perfect Market and Welfare State Perspectives on “Good” Markets: An Empirical Test. *Applied Research Quality, Life*, 17, 1113–1136 (2022).
- Hannigan, J. (2022). *Environmental Sociology*. Routledge.
- Hardin, G. (1968). The tragedy of the commons: the population problem has no technical solution; it requires a fundamental extension in morality. *Science*, 162(3859), 1243-1248.
- Hayes, A. (2023, August 21). *What Are the Most Important Aspects of a Capitalist System?* <https://www.investopedia.com/ask/answers/040715/what-are-most-important-aspects-capitalist-system.asp> [accessed in March 2024].

- Hellwig, M. (2021). 'Capitalism: what has gone wrong?' Who went wrong? Capitalism? The market economy? Governments? 'Neoliberal' economics? *Oxford Review of Economic Policy*, 37(4), 664–677.
- Hudson, R. (2023). Capitalist development, the impossibility of 'green' capitalism, and the absence of alternatives to it. *Area Development and Policy*, DOI: 10.1080/23792949.2023.2269406
- IISD (2023). State of Global Environmental Governance-2023. Geneva, Switzerland.
- IPCC (2022). *AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability*. Geneva, Switzerland.
- IPCC (2023). *AR6 Synthesis Report: Climate Change 2023*. Geneva, Switzerland.
- Irfan, U. (November 30th -12th December 2023). Wins and Loses at the 28th Annual United Nations Climate Meeting in UAE in December 2023.
- IUCN (2023). *IUCN Commission on Ecosystem Management annual report 2023*. Gland, Switzerland.
- IUCN. (2021). *Proceedings of the Members' Assembly: World Conservation Congress*. Marseille, France, 3–10 September 2021. 176.
- James, A. (2018). *The World Economy: A Brief History*. London: Longman.
- Johansen, J. (2017). *Capitalism a Way of Life*. Oxford: Clarendon Press.
- Kolin, A. (2023). *Irrationality Of Capitalism and Climate Change: Prospects for an Alternative Future*. Lexington Books.
- Kurtz, D.V., (1996). Hegemony and anthropology: Gramsci, exegeses, reinterpretations. *Critique of Anthropology*, 16(2),103-135.
- Longo, S. B., & Clark, B. (2016). An Ocean of Troubles: Advancing Marine Sociology. *Social Problems*, 63(4): 463– 479.
- Lynch, J., Long, A., Stretesky, B., & Barrett, L. (2019). Measuring the Ecological Impact of the Wealthy: Excessive Consumption, Ecological Disorganization, Green Crime, and Justice. *Social Currents*, 6 (4), 377–395.
- Marx, K. (1906). *Capital: A Critique of Political Economy—Volume. I*. New York: International Publisher.
- Marx, K. (1975a). *Texts on Method*. Oxford: Blackwell.
- Marx, K. [1861– 1863] (1975b). *Karl Marx Frederick Engels Collected Works Vol. 30, Economic Manuscript of 1861– 1863*. New York: International Publishers.

- Marx, K. [1887] (1976). *Capital: A Critique of Political Economy, Volume I*. New York: Vintage.
- Meina, C., Gregory, C., Nick, C., Ilia, M., Jennifer, M., & Raufhon, S. (2022). Individualism, economic freedom, and charitable giving. *Journal of Economic Behavior and Organization*, 200(2022), 868—884.
- Mészáros, I. (1995). *Beyond Capital*. New York: Monthly Review Press.
- Moore, W. J. (2011). Transcending the Metabolic Rift: A Theory of Crisis in the Capitalist World-Ecology. *The Journal of Peasant Studies*, 38(2011),1–46.
- Moore, W. J. (2014). Toward a Singular Metabolism: Epistemic Rifts and Environment-Making in the Capitalist World-Ecology. *New Geographies*, 6(2014),10–19.
- Moore, W. J. (2015). *Capitalism in the Web of Life*. London: Verso.
- Nicholson, A. (2016). *An Abuse of an Innocent Planet*. New York: Bantam.
- OECD (2021). *Taxing Energy Use for Sustainable Development*. Paris, France.
- Ogbonna, E. & Adeleke, A. W. (2021). *Globalisation as the Changing Line of Neo-Imperialism: Implications for Africa*. <http://dx.doi.org/10.2139/ssrn.3949451>
- Ohio State University [OSU] Health Science Library (2023). Systematic Reviews Synthesis. Columbus, Ohio. [https://hslguides.osu.edu/systematic\\_reviews/synthesize](https://hslguides.osu.edu/systematic_reviews/synthesize) [accessed in February 2024].
- Parisot, J. (2019). *How America Became Capitalist: Imperial Expansion and the Conquest of the West*. Pluto Press.
- Pollin, R., & Epstein, G. (2021). Neoliberalism’s bailout problem. *Boston Review*.
- Reisch, L.A., Sunstein, C.R., Andor, M.A., Doebbe, F.C., Meier, J., Haddaway, N.R., (2021). Mitigating climate change via food consumption and food waste: a systematic map of behavioural interventions. *J. Clean. Prod.* 279, 123717.
- Saito, K. (2023). *Marx in the Anthropocene: Towards the Idea of Degrowth Communism*. Cambridge University Press.
- Scheidel, A. (2023). Does the Social Metabolism Drive Environmental Conflicts? In: Villamayor-Tomas, S., Muradian, R. (eds) *The Barcelona School of Ecological Economics and Political Ecology*. Studies in Ecological Economics, vol 8. Springer, Cham.
- Scheidel, A., & Schaffartzik, A. (2019). A socio-metabolic perspective on environmental justice and degrowth movements. *Ecological economics*, 161, 330-333.



- Stephens, P. (2017). *The Tragedies of Capitalist System: A Critical Assessment of Capitalism's Limits*. Cambridge University Press.
- Susan, R. (2018). *The Economics and Politics of Unfair Competition*. London: Macmillan Press.
- Sweezy, P. M. (2004). Capitalism and the Environment. *Monthly Review* 56(5), 86–93.
- Taffel, S. (2023). Data and oil: Metaphor, materiality and metabolic rifts. *New Media & Society*, 25(5), 980–998.
- Turner, J. (2023). *The Future of Sociology: Ideology or Objective Social Science?* Routledge
- Ul-Durar, S., Shah, M., De Sisto, M., & Arshed, N. (2023). Metabolic rift theory and the complexities of water conflict between India and Pakistan: A pathway to effective environmental management. *Journal of Environmental Management*, 347, 119164
- UNEP (2024). *World Environment Situation Room: Data, Information and Knowledge on the Environment*. Nairobi, Kenya.
- UNEP. (2018, August 22). *Annual Report*. Nairobi, Kenya.
- UNFCCC (2021). *United Nations Fashion Industry Charter for Climate Action*. New York.
- United Nations (2023). *Experts Call for Rights-Based Approach to Combat Desertification, Land Degradation, and Drought*. New York.
- WHO (2023). *Global Air Pollution*. Geneva, Switzerland.
- WMO (2023). *State of the Global Climate 2023*. Geneva, Switzerland.
- Wolchover, C. (2012, October 11). Craig on Lion—Gazelle “Liar-omance”. *ABC Wildlife Magazine*, 4—5.
- Wright, H. (2019, May 12). An Atrocious Soul: Capitalism and the Environment. *Orion*, 11-14.
- WWF (2022). *Living Planet Report 2022*. Gland, Switzerland.
- Young, C. & Wood, J. (2017). *Managing Wildlife Conflicts*. Cambridge University Press.
- Zitelmann, R. (2023). Attitudes towards capitalism in 34 countries on five continents. *Economic Affairs*, 2023(43), 353–371.