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SOCIOECONOMIC DRIVERS OF ENVIRONMENTAL DEGRADATION: A NARRATIVE REVIEW OF GLOBAL PATTERNS AND POLICY IMPERATIVES

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Abstract:

Environmental degradation is a serious problem affecting the socio-ecological stability of the world, and is mostly a systemic issue, not necessarily one of “mere” biophysical processes. While a great deal of research has been done on the individual environmental pressures, the knowledge base is still siloed and disjointed which hinders the development of a coherent policy. This narrative review aims to fill this gap by summarising the literature published between 2010 and 2026 and to critically assess the key socioeconomic causes of environmental degradation and the policy priorities these raise worldwide. The analysis is organised in four thematic pillars: Economic growth paradigms and the Environmental Kuznets Curve (EKC), Demographic change and rapid urbanisation, Socio-economic inequality and power asymmetries, and Institutional governance in the context of globalization. The reviewed literature provides the following key insights: First, economic growth by itself does not necessarily lead to absolute decoupling. Concurrently, environmental disparities are disproportionately handed down to vulnerable communities in the Global South by interacting global and local processes of structural wealth inequalities. Macro-

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level, high-consuming countries bring high-carbon production to developing countries with lower regulations, thus shifting their carbon footprints. On the local level, marginalized communities are exposed to disproportionate environmental risks, including industrial pollution, climate-related environmental degradation, as well as weak political representation, weak land tenure security, and weak institutional protections which are underfunded. As a result, the cost of global economic expansion is borne by the least contributors to global consumption, at the local level, in the form of ecological and health damages. Moreover, from the literature, it is known that institutional quality is an important conditioning factor which influences either sustainable technological innovations or the occurrence of regulatory races to the bottom in the context of global trade flows. Ideationally, this review connects discrete economic and sociological approaches and proposes an integrated, multi-scalar concept of accounting in terms of consumption and structural power. On the practical side, it provides policymakers and practitioners with effective, evidence-based means of integrating socioeconomic development with planetary boundaries such as redistribution fiscal measures, green technology transfer, and decentralised institutional enforcement.

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Keyword:

Environmental Degradation, Ecological Decoupling, Environmental Kuznets Curve, Narrative Review Socioeconomic Drivers, Sustainable Governance, Socio-Ecological Policy.



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Introduction

Environmental degradation is one of the greatest challenges to global stability, ecological integrity and human wellbeing in the 21st century. With planetary boundaries becoming ever more strained due to a loss of biodiversity, climate change and land degradation, it is becoming increasingly important to understand the mechanisms that underlie these changes and a key academic priority. Physical processes or changes directly impact ecosystems, and the basic drivers of this degradation are tied to human social, political and economic systems. Global natural systems are constantly being put under immense pressure by phenomena like rapid industrialization, growing consumer markets and quick population growth (Liang & Zhong, 2023; McKinney, 2012; Selles, 2013). Thus, dealing with the global ecological decline needs a different perspective from immediate biophysical symptoms to the complex human systems that cause them.

Environmental degradation is both large and unequal, with geographic and socioeconomic divisions. In high income countries, high per capita consumption and resource extraction are responsible for a disproportionate share of resource extraction and carbon emissions, while high income countries in low- and middle-income regions suffer the most from the impacts of ecological disruptions (Dhanda & Hill, 2007; Selles, 2013). However, economic growth and fast urbanization in rapidly developing nations can often exceed institutional capacity, resulting in unmanaged waste generation, deforestation, and industrial pollution (Frors et al., 2012; Ogbudinkpa, 2018). Socio-economic inequalities also contribute to this crisis, as marginalised groups are more likely to be dependent on the vulnerable local ecosystem for their livelihood, and also more likely to suffer the impacts of environmental degradation (Strachan & Al Zohbi, 2025). The dynamics highlight that environmental degradation goes beyond a purely technical and ecological issue, it is also a socio-economic challenge.

Although decades of academic study of socio-environmental interactions have been done, the literature is still quite splintered making it difficult to establish a policy approach that is integrated and effective. There is limited conceptual integration across disciplines, and economists, sociologists, and environmental scientists often study environmental drivers separately, without taking into account the connections between these drivers (El Khoury et al., 2025; Rogers, 2014). The evidence also varies across sectors, with energy transition and industrial emissions primarily attracting the academic interest and attention, while the agricultural dynamics, informal sectors and urban spatial expansion remain comparatively understudied in the developing contexts (Ogbudinkpa, 2018; Yilanci et al., 2023). Furthermore, the terminology used is not uniform in the literature: sustainability, green growth and decoupling are all defined differently between regions and disciplines. Implementation approaches are also diverse, from market-based instruments in high-income states to the lack of coherence in regulatory frameworks in areas with reduced governance capacity (Pichs-Madruga, 2020).

It is, therefore, important to have a comprehensive narrative review that connects these thematic gaps, brings together the various theoretical approaches and integrates global evidence into a unified paradigm. Although some empirical tests have been conducted on single hypotheses, like the validity of the Environmental Kuznets Curve (EKC) (Gültekin et al., 2023; Mosconi et al., 2020), few attempts have been made to systematically evaluate how the

structural shift in the economy, the demographic change, the governance quality, and the wealth inequality interact at different stages of the development (El Khoury et al., 2025; Pichs-Madruga, 2020). It is therefore essential to weave these conflicting strands together to transcend the silo mentality and to provide policy makers with evidence-based approaches that are suitable to regional contexts.

This narrative review brings together the global literature to examine the main socioeconomic causes of environmental degradation, discuss regional differences in the performance of developing and wealthy countries and pinpoint the main policy challenges for sustainable development. In this context, the article is organized in four main parts that follow this introduction. It first examines key socio-economic drivers, in particular economic growth, demographics, inequality, and governance institutions. Second, it makes comparisons of patterns of development in the world as a whole at various stages of development. Third, it provides policy recommendations to encourage sustainable governance, technology uptake and

fair resource use. Lastly, it offers a set of closing thoughts and points to key future interdisciplinary research directions.

Review Approach

A structured and transparent search process was carried out following the principles of narrative review methodology (Gasparyan et al., 2011) to synthesize the available evidence for the key socio-environmental processes contributing to ecological degradation. Narrative reviews can benefit from the inclusion of more than one systematic review in order to provide a more comprehensive synthesis of theory than a single systematic review, but methodological rigor with a proper search strategy can also improve methodological transparency and limit selection bias (Snyder, 2019). Literature search was carried out only in Scopus, because it has an extensive index of peer-reviewed journals covering the fields of environmental sciences, economics and interdisciplinary social sciences.

A targeted Boolean search was completed of the literature using article titles, abstracts and keywords. The search string was built up as follows: ("socioeconomic" OR "economic" OR "social" OR "demographic") AND ("drivers" OR "factors" OR "influences" OR "determinants") AND ("environmental degradation" OR "environmental decline" OR "ecosystem damage" OR "ecological degradation"). The literature search was restricted to peer-reviewed articles between 2010 and 2026 to ensure that it reflects current empirical evidence, theories, and recent policy reviews.

Multi-stage literature screening and selection was done. As a result, the articles obtained from Scopus were assessed for eligibility according to the pre-determined inclusion and exclusion criteria. The studies were selected if they addressed macro- or micro-levels of socioeconomic, demographic, or institutional factors causing environmental degradation, included empirical findings or substantive theoretical syntheses, and were written in English and published in peer-reviewed journals. Studies were not included which had no English translation, were on biophysical mechanisms of environmental degradation without any human or socioeconomic factors, or were in the form of conference abstracts, editorials or opinion pieces. The selected studies were organized and synthesized narratively around the following key themes:

Economic growth paradigms, Demographic shifts, Inequality, and Institutional governance. The 2010–2026 time period falls within a critical period of environmental governance and economic change around the world. The year of 2010 is a pivotal moment after the recovery period from the global financial crisis of 2008, when an international transition took place from parallel “green” and “growth” agendas to the new concept of integrated “green growth”: and the preparation of the UN 2030 Agenda, a starting point for low-carbon development. It is important to note that the literature is limited to this timeframe to reflect the subsequent implementation and evaluation of the 2015 Sustainable Development Goals (SDGs) as well as the Paris Agreement. The focus then on 2010-2026 ensures that the literature synthesized is current in terms of empirical data, modern sociopolitical dynamics and the latest evaluations of policies relevant to the current global ecological trends. Media were identified using search strategy with a specific cluster of keywords and a combination of Boolean operators, as shown in Table 1 below.

Table 1: Summary of Search Strategy and Selection Parameters

Parameter	Specification
Database	Scopus (exclusively)
Search String	("socioeconomic" OR "economic" OR "social" OR "demographic") AND ("drivers" OR "factors" OR "influences" OR "determinants") AND ("environmental degradation" OR "environmental decline" OR "ecosystem damage" OR "ecological degradation")
Publication Timeframe	2010 – 2026
Inclusion Criteria	Peer-reviewed journal articles; published in English; focused on socioeconomic, economic, demographic, or institutional drivers of environmental degradation; empirical or theoretical focus.
Exclusion Criteria	Non-peer-reviewed sources (editorials, conference abstracts, book reviews); non-English publications; studies focused exclusively on natural/bio-physical drivers without socio-environmental factors.
Selection Approach	Multi-stage title/abstract screening followed by full-text evaluation and thematic synthesis based on relevance to review objectives.

Source: (Developed by the current research study)

Conceptual Background

Definitions

To rigorously analyse the socio-environmental nexus, this review sets clear operational definitions for the core concepts that are embedded in it. Environmental degradation is defined as a deterioration of the physical environment, which encompasses both the quality of natural resources (particularly air, water, and soil quality) and the destruction of natural habitats and loss of biodiversity and degradation of critical ecosystem services (Liang & Zhong, 2023; McKinney, 2012). This drop is attributable to

socioeconomic pressures, which are endogenous and exogenous human forces that influence the amount and speed of human resource extraction and waste generation directly or indirectly, through demographic pressures, macro-economic activities, social equity structures, governance structures, and behaviour, consumption profiles (El Khoury et al., 2025; Pichs-Madruga, 2020).

In this human force, growth of the production potential of the nation, in the form of Gross Domestic Product (GDP) per capita has been connected to the growth of material throughput and energy use (Fotros et al., 2012; Gültekin et al., 2023). Socioeconomic inequality is a

condition of distribution of income, wealth, political power and resources of social groups within and across nation boundaries (Rogers, 2014; Strachan & Al Zohbi, 2025). Moreover, governance and institutional capacities refer to formal laws, regulatory frameworks, informal norms and administrative capacities used to ensure implementation of environmental standards and governance of common-pool resources (Ogbudinkpa, 2018; Yilanci et al., 2023).

Key Theories And/Or Frameworks

There are several influential macro-theoretical frameworks that are used for a systematic study of socioeconomic drivers. The original IPAT Identity ($I=P \times A \times T$) by Ehrlich and Holdren (1971) suggests that the total environmental impact (I) of modern society is equal to the product of the number of inhabitants (P), per-capita affluence (A), and the technological footprint per unit of production (T). The IPAT identity gives a relatively intuitive structural backbone to the evaluation of human environmental pressure, but it is based on static assumptions, which have led to the creation of more dynamic economic and sociological models.

Of these, the EKC Hypothesis is the prevailing neoclassical model of the economic trajectory in response to environmental stress. The EKC was developed empirically by Grossman and Krueger (1991) and suggests that there is a U-shaped relationship between economic growth and environmental degradation. The model predicts that in the early phase of industrialization, pollution and resource depletion rise with income. This trend, however, reverses after a certain income level, as the structural transition to service economies, technological efficiency, and an increased public demand for environmental protection take over (Gültekin et al., 2023; Mosconi et al., 2020). Modern theories also suggest that ecological issues can be increasingly accommodated by the use of technology and institutional changes in capitalist economies, as represented by Ecological Modernization Theory (Liang & Zhong, 2023). Nevertheless, empirical literature is almost entirely qualified this framework, indicating that the inverted U-curve is valid for local and immediately visible pollutants, e.g., SO₂ or particulate matter. It is not estimating global cumulative damage like carbon emissions, biodiversity loss or soil loss. The hypothesis is challenged by studies that show that the restoration of a country's environment in high-income countries is often a mirage, using global trade networks to move carbon-intensive manufacturing to developing countries. So, it merely shifts ecological costs and benefits rather than solving them.

On the other hand, the EKC and ecological modernization theories are undermined by critical structural theories, which expose the systemic inequities in the world. Ecologically Unequal Exchange (EUE) theory, which is grounded in world-systems analysis, suggests that the global trade system enables the high-income core countries to shift environmental costs to low-income peripheral countries (Rice, 2006; Selles, 2013). EUE involves high income areas continuing to consume at high rates and passing on the resources having to be extracted, polluted and stored in low regulated developing economies (Dhanda & Hill, 2007; Lipman, 2006). These complimentary and conflicting theoretical approaches allow for an analysis of socio-environmental developments worldwide in the context of diverse economic arrangements.

Thematic Review of Literature

The literature reviewed is organized into four broad themes to create a coherent theoretical and empirical synthesis, not assessed on a study-by-study basis. This thematic organization enables

a more systematic analysis of similarities, differences in methodology and loopholes in the systems, particularly between the disciplines.

The review starts in Theme 1: Economic Growth Paradigms and the EKC, which assesses the link between macroeconomic growth, industrialization and environmental stress. It therefore progresses to Theme 2: Demographics, Rapid Urbanization and Industrial Expansion which focuses on the spatial and demographic components of resource consumption and waste production processes. Theme 3: Socioeconomic Inequality, Power Asymmetries, and Environmental Justice then examine the impact of socioeconomic inequalities and unequal structures of power on environmental vulnerability and land grabs. Finally, in Theme 4: Governance Institutions, Globalization, and Policy Implementation, the institutional structures, global market forces, and policy challenges that collectively influence on-the-ground environmental outcomes are brought together.

Theme 1: Economic Growth Paradigms and the EKC

The connection between national economic development and the environment continues to be one of the most discussed paradigms in ecological economics. A basic literature base discusses the EKC hypothesis which suggests that environmental degradation starts to worsen as the economy grows as a result of the increased use of resources and industrial emissions. At some point, however, it subsides the ecological harm as high-income societies move into service economies, cleaner technologies, and more rigorous regulatory enforcement. Empirical syntheses in recent years suggest that energy intensity and technological change are the mediating factors of this structural change, meaning that macroeconomic transitions can reduce the growth of the ecological footprint while maintaining GDP growth under certain institutional conditions (Gültekin et al., 2023; Liang & Zhong, 2023). However, those who studied entropic dynamics pointed out that absolute decoupling was fundamentally limited by thermodynamic constraints, since any raw material flow and energy conversion inevitably leave behind physical waste and disorder in the global supply chain (McKinney, 2012).

There are notable analytical differences as well between empirical assessments of the EKC for various economic jurisdictions and at various stages of development. Relative EKC can occasionally be observed at the local level for certain pollutants in the atmosphere, and improvements could be related to technological progress and institutional change towards an increasing service-oriented economy, as reported in studies of high-income Organization for Economic Co-operation and Development (OECD) countries (Bulut & Tekdemir, 2025; Mosconi et al., 2020). On the other hand, empirical studies in developing and emerging market economies (such as the MINT economies Mexico, Indonesia, Nigeria and Turkey and the Association of Southeast Asian Nations (ASEAN) economies) show N-shaped or

monotonically increasing pollution trends. In the context of rapid industrialization, the scale effect of economic growth is still dominant so as to cause environmental degradation even though the income growth is high (Duong & Tran, 2022; Yilanci et al., 2023).

Apart from that, a critical analysis of the above literature shows that it is methodologically and conceptually very much dependent on the indicators of pollution used at a local level and can thus mask the ecological displacement occurring on a global level. However, though the economic growth models are often based on a view of the countries as autonomous entities, this does not consider international carbon leakage and embodied material flows, which occur

when polluting activities are moved to other regions where pollution is less strictly regulated (Leal & Marques, 2020; Selles, 2013). Considering the need for a more nuanced approach to growth models than the linear, it is essential to consider the interactions of national economic pathways within a global network of trade, a consideration that is directly relevant to this review's goal of elucidating structural drivers at different geographical scales.

Theme 2: Demographics, Rapid Urbanisation and Industrial Growth

Demographic forces and spatial restructuring are a key component of human-induced environmental change. The literature in this area noted that the population growth, growing urbanization and increasing industrialisation strain all the resources, including land, water and atmospheric sinks, in a synergistic manner (Fotros et al., 2012; Ogbudinkpa, 2018). The increasing energy demand associated with rural to urban migration, as energy is used for municipal services, transportation, and industrial production, leads to a large increase in carbon emissions and local habitat destruction due to migration (Abbas et al., 2020; Elfaki et al., 2022). Those scholars pointing to these socio-spatial dynamics suggested that rapid urbanization fundamentally changes the regional provisioning of ecosystem services, thereby shifting the natural landscape into a built environment that demands greater natural resources and produces greater amounts of municipal and industrial waste (Liang & Zhong, 2023; Pichs-Madruga, 2020).

Comparative approaches at the regional level have shown different structural implications and institutional dynamics of urbanization impacts on ecological well-being. Uncontrolled and unplanned urban growth in rural areas of Sub-Saharan Africa, Latin America and South Asia is leading to significant local deforestation, pollution from industrial effluents and high levels of urban waste (Ogbudinkpa, 2018; Pichs-Madruga, 2020). However, studies conducted in planned urban settings show that increased urban density can lead to environmental efficiency per capita via public transit, energy supply and distribution, and centralized waste management, respectively, by the economies of scale (Fotros et al., 2012; Liang & Zhong, 2023). The main scholarly dispute is whether urbanization is an inevitable catalyst of environmental degradation or a spatial precondition for resource efficiency and technological mitigation.

Although numerous efforts have documented urban growth metrics, there is a critical lack in the literature focused on the informal economy and suburban spatial sprawl in developing

countries. Previous models mainly tend to take into account formal macroeconomic and demographic indicators which neglect the environmental impact of uncontrolled informal manufacturing and unplanned peri-urban settlements (Abbas et al., 2020; Ogbudinkpa, 2018). In addition, sectoral studies rarely considered industrial production alongside urban consumption, failing to account for the "urban resource flows. Also, sectoral studies typically did not include industrial production in relation to urban consumption, without considering the "urban resource flows" between the two. It is essential to tackle these disorganized spatial viewpoints to be able to combine the impact of demographical changes on environmental vulnerability at global scale.

Theme 3 – Socio-Economic Inequality, Power Imbalances and Environmental Justice

Social stratification, wealth distribution and ecological degradation have become an integral part of socio-environmental research. This theme has been studied, and the literature shows us

that socioeconomic inequality can be a catalyst of environmental deterioration and exacerbates both resource consumption patterns and institutional capacity to protect the environment (Naydenov, 2024; Rogers, 2014). High levels of domestic wealth inequality favor the consolidation of political and economic power in the hands of the elites, who are also often the first to reap direct benefits from the resource-extractive industries, and who avoid the direct consequences of environmental hazards (Rogers, 2014; Strachan & Al Zohbi, 2025). While these groups are deprived of economic security and alternative livelihoods, they often rely on overexploiting fragile local eco-system for their short-term livelihood needs, which in turn aggravates land degradation and resource depletion (Naydenov, 2024).

Otherwise, comparative analysis through theoretical frameworks shows conflicting understandings of the relationship between inequality and ecological harm. The neoclassical theory of political economy suggested that poverty alleviation and growth of the middle class would lead to a demand for environmental protection and conservation financing (Rogers, 2014). On the other hand, critical political ecology views contend that economic expansion in unequal systems simply leads to a rise in collective consumption, with affluent communities consuming at a higher carbon cost and the burden of environmental risks falling on marginalised communities (Dhanda & Hill, 2007; Strachan & Al Zohbi, 2025). Beyond that, there is evidence from global scale empirical studies of EUE, where developing countries end up paying very high environmental costs in order to provide high consumption standards to global core countries (Lipman, 2006; Selles, 2013).

One shortcoming in existing scholarship is the often-conceptual separation of domestic inequality from international power inequalities. National Gini coefficients have been explored without paying attention to the limits of the developing country's ability to establish equitable environmental policies due to global trade agreements, foreign direct investment, and multinational corporations (Kochtcheeva, 2013; Naydenov, 2024). Also, there is an inconsistent terminology in the empirical research which sometimes merges income inequality, social vulnerability and political disenfranchisement. These power dynamics need to be synthesized to accomplish the purpose of this review: to demonstrate the structural perpetuation of social inequities in planetary environmental degradation.

Themes 4: Governance Institutions, Globalization and Policy Implementation

The last major theme looks at institutional, political and global governance arrangements that are intermediary to the human influence on the biosphere. Findings in this field show that institutional quality, defined by enforcement of regulations, protection of property rights, political stability, and transparency, is a crucial factor in explaining whether economic activity will achieve sustainable resource management or unchecked environmental degradation (El Khoury et al., 2025; Singh et al., 2013). The absence of institutional structures was cited as the "commons dilemma" that market actors can externalise environmental costs and contribute to deforestation, industrial pollution and illegal resource extraction (Pichs-Madruga, 2020; Singh et al., 2013). On the other hand, strong environmental governance can make environmental resources more scarce or more expensive as a result of harsh environmental regulations or environmental innovation subsidies (Leal & Marques, 2020).

The overall effect that economic globalization has on institutional environmental performance is still not agreed upon. The "pollution halo" hypothesis rests on the idea that globalization promotes the exchange of the most advanced and energy-efficient technologies and high

corporate standards from developed to developing nations (Grainger, 2012; Leal & Cardoso Marques, 2019). The "pollution haven" hypothesis, on the other hand, states that international trade and capital flows increase environmental pollution in the peripheral economies by attracting polluting industries to these developing countries using less strict ecological standards (Hameed, 2015; Kochtcheeva, 2013). These conflicting views underscore the fact that the institutional capability of host countries can have contrasting impacts on the environment in a global market context.

The proposed framework moves toward an integrated multi-scalar approach, that relates to four main socio-environmental aspects that have been studied separately: (i) Economic Growth Paradigms & Entropic Limits: connects the main models of economic growth and industrialization and introduces thermodynamic and entropic limits, considering the continuous passage of materials and finite boundaries of resources. (ii) Demographic Dynamics & Urban Spatial Patterns: Relates urbanisation, population pressure and industrial growth with the usage of space and resources including informal sector. (iii) Structural Wealth Inequalities & Power Asymmetries: Addresses domestic income inequalities, social stratification and core-periphery international inequalities and power relations to explain how environmental stresses have been distributed and externalised. (iv) Institutional Governance & Global Trade Systems: Enforcement capabilities, state governance quality, pollution havens/halos, carbon leakage etc., from global trade systems.

It builds on the traditional environmental governance literature in three fundamental ways: 1) Bridging Disciplinary Silos: This approach moves beyond single variable and isolated assessments (such as purely economic modeling vs purely biophysical assessments) to a more multi-scalar paradigm that directly links macro-level market drivers, policy implementation, and local socio-ecological vulnerabilities. 2) Adopts a Approach to Consumption-Based Accounting: Transitions governance literature from production-based indicators, which can offer a false sense of "green growth" in rich countries, to an approach that includes

consumption-based accounting and embodied material flows in global value chains. 3) Structural Power & Informal Dynamics: Expands traditional top-down policy models to include international power asymmetries, EUE, and micro-level enforcement barriers in informal sectors and developing context where traditional regulatory governance is often absent.

Critically, existing literature shows a significant lack of research on the failure of implementation of environmental policy in developing and transitional economies. Although policy design and international environmental treaties receive significant research focus, less empirical research has focused on the localized administrative and financial constraints and political stumbling blocks that hinder effective policy implementation on the ground (Pichs-Madruga, 2020; Singh et al., 2013). This disconnect between the upper tier of governance structures and the capacity for governance at the regional level also reinforces the need for integrated, context-specific implementation models, as stated in the objective for this review, to explain the actionable policy imperatives for global environmental governance. Themes 1 and 2 are structurally interconnected as shown in **Figure 1**.

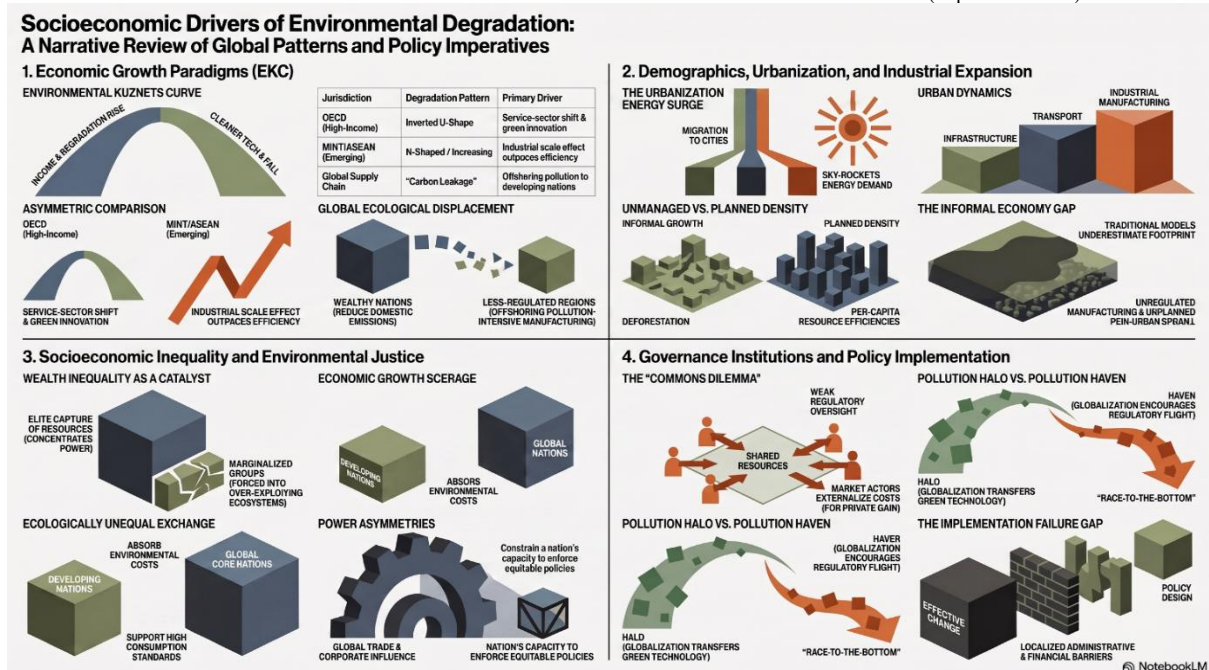


Figure 1: Thematic Review of Literature

Source: (Developed by the current research study)

Critical Discussion

This section extends the previous descriptive synthesis and examines the socioeconomic drivers of environmental degradation identified in the synthesis critically. The discussion is not limited to a restatement of findings, but rather organized into four analytical dimensions: (i) points of consensus, (ii) core theoretical and empirical disagreements, (iii) persistent

knowledge gaps, and (iv) broader implications for theory and practice to deepen the examination of the literature and its overall patterns.

Agreements in the Literature.

There is a general agreement on macroeconomic, demographic and sociological levels that human socioeconomic activities are one of the main drivers of the current planetary environmental degradation. Economic development in the early stage, rapid industrialization, and urbanization has been found to be associated with an increase in natural resource extraction, energy demand, and pollutant buildup, which can be exacerbated (El Khoury et al., 2025; Fotros et al., 2012; Liang & Zhong, 2023). Moreover, there are many reports in the literature that socioeconomic inequality increases ecological damages, as disparities in wealth reduce the capacity to regulate, and can lead to a concentration of resources among the elites, allowing them to shift environmental costs onto poorer less powerful groups (Naydenov, 2024; Rogers, 2014; Strachan & Al Zohbi, 2025). There is also a strong consensus on the importance of governance quality, and that institutional failures and weak regulation generally hasten ecosystem degradation (Pichs-Madruga, 2020; Singh et al., 2013). When read critically, it becomes clear that although scholars have reached a consensus on the generalizations of the sociocultural drivers of ecological harm, much of the consensus is macro-level generalizations

that mask local socio-ecological realities. The literature often fails to recognize the possibility of how governance paradigms, the technical nature of municipal planning, and the adoption of technology can shape these relationships in practice in a way that differs from their broad characterization and impact as negative forces (Abbas et al., 2020; Fotros et al., 2012). Furthermore, there is a widespread consensus on the negative effects of social inequality that often fail to be sufficiently operationally specific as the studies usually consider income inequality as a control variable, instead of a dynamic, more power-laden process that actively influences the policy formulation and environmental enforcement of laws (Naydenov, 2024; Strachan & Al Zohbi, 2025).

Disagreements

The main focus of disagreement in the literature is found in the acceptance and the generalizability of the EKC hypothesis and the possibility of absolute economic decoupling. In the neoclassical and ecological modernization theories, when economy expands, it produces the capital and the technological innovations and demands that allow society to overcome environmental degradation beyond a certain income level (Gültekin et al., 2023; Mosconi et al., 2020). However, ecological economists and structural sociologists state that the EKC is an observation, and that material throughput and thermodynamic limits are not taken into account; they maintain that GDP growth, irrespective of technological advances, can only lead to net ecological degradation (Bulut & Tekdemir, 2025; McKinney, 2012). There is also a divergence of opinion on global market integration, with “pollution halo” players claiming that the process of globalisation enables the spread of clean technologies to emerging markets (Grainger, 2012), and “pollution haven” theorists countering that the international market is also able to move resource-heavy, polluting activities to emerging markets which lack strong environmental controls (Hameed, 2015; Kochtcheeva, 2013).

These theoretical fractures are rooted in more fundamental differences in ideology and methodology about systems of human and environment, and their conceptualization and measurement. The studies that defend the EKC often use localised metrics of air pollution (e.g. emissions of SO₂) or metrics of economic production (e.g. emissions of CO₂) in OECD countries with relatively high levels of income (Bulut & Tekdemir, 2025; Leal & Marques, 2020). Others, who are critical of the EKC, use consumption-based indicators, such as total ecological footprint or embodied carbon trade, which measure the environmental costs faced by the periphery in the form of exporting the environmental cost of consumption to the periphery (Dhanda & Hill, 2007; Lipman, 2006; Selles, 2013). This basic dichotomy brings to the fore one of the most important paradoxes in environmental research: the extent to which the high-income economies are actually transitioning to sustainable growth through green technology innovation or merely shifting ecological problems through trade patterns (Leal & Cardoso Marques, 2019; Selles, 2013).

Gaps

Although there is a great amount of research on socio-environmental dynamics, the literature on informal economies, localized implementation models and non-linear climate feedback loops is still quite limited. In the Global South, the environmental footprints of the informal manufacturing sector, unregulated expansion of agriculture and peri-urban informal settlements are excluded from macro-level empirical studies that are mainly based on official national statistics (Abbas et al., 2020; Ogbudinkpa, 2018). Moreover, although a lot of research

has been devoted to the theoretical study of national environmental policy regimes, empirical research on the micro-level political, financial and administrative obstacles that underpin broad environmental policy enforcement failures in developing countries (Pichs-Madruga, 2020; Singh et al., 2013) is limited.

Current socio-environmental models have limited predictive power if they don't include informal sectors and localized enforcement mechanisms. The state of existing scholarship is formal GDP, official energy statistics and state-level policy indicators, which are insufficient to capture the full dimensions of total resource extraction and waste generation in fast industrializing parts of the world (Ogbudinkpa, 2018; Yilanci et al., 2023). Moreover, the literature continues to be conceptually fragmented. Economic models have always been formulated without considering ecological threshold dynamics, and physical environmental assessments usually do not consider the impact of urbanization patterns and institutional governance structures on resource distribution and the impacts of environmental pressures (McKinney, 2012; Rogers, 2014). In particular, there is a lack of studies that explore how the bottom-up socioeconomic vulnerability relates to the top-down policy enforcement, while key feedback loops between policy implementation, market incentives, and possible ecosystem collapse are not considered. Therefore, it is crucial to overcome these interdisciplinary gaps in order to create comprehensive theoretical frameworks to adequately describe global ecological processes.

Implications

The theoretical and empirical findings that are combined in this review have a number of important implications for scholarly research, global environmental policy, and institutional governance. The results emphasize the need for new consumption-based, multi-scalar, socio-ecological approaches to growth, beyond the one-size-fits-all paradigm, to take into account global trade flows and power asymmetries (El Khoury et al., 2025; Selles, 2013). Empirical future studies need to take into account the measurement of informal economic activities and governance capacity indicators, to ensure proper assessment of national environmental performance (Abbas et al., 2020; Pichs-Madruga, 2020).

They are important from both a practical and policy point of view as they suggest that growth is not enough to solve the crisis in the environment. Policies need to go beyond mere passivity in minimizing the environmental impacts of consumption and inequality, and should also foster absolute resource decoupling, ease green technology transfers and embrace redistributive tax measures (Dhanda & Hill, 2007; Liang & Zhong, 2023; Strachan & Al Zohbi, 2025). In addition, international trade treaties and environmental conventions should include more robust environmental justice clauses, to avoid the burden of high-income countries on the potentially more vulnerable developing ones that are not as regulated (Kochtcheeva, 2013; Lipman, 2006; Selles, 2013).

Recommendations and Future Directions

There is a need to tackle the multifaceted socioeconomic determinants of environment degradation with focused and evidence-informed strategies and integrate the theoretical aspects with action. The policy or practice recommendations include the following:

Instead of waiting for passive expectations of economic growth or universal technical requirements, national governments should implement green fiscal instruments as the main policy instrument, which are redistributive in nature. Social equity issues must be addressed by implementing stringent environmental policies along with a strategy for green taxes, including carbon or extraction taxes, and direct investments in social safety nets and community infrastructure. This ensures that this approach directly addresses the central theme of the review, that structural inequalities in wealth can lead to a concentration of political power and a redirection of environmental burdens onto the most vulnerable populations. Green fiscal reform can help to internalize ecological costs at the top and transfer capital to the less privileged by tackling ecological degradation and gaps in institutional enforcement at the same time.

Future Research Directions

Future studies should focus on three areas of potential study: (i) Informal Sector Accounting: Create multi-scalar, interdisciplinary methodologies that record the environmental footprints of informal economies, shadow manufacturing, and unplanned peri-urban settlements in the developing world. (ii) Consumption-Based Tracking: Implement consumption-based accounting approaches and longitudinal panel designs to measure international resource transfers and embodied carbon and assess the effect of global trade on the ecological degradation of core and peripheral countries. (iii) Implementation Dynamics: Empirical

research on institutional mechanisms for enforcing regulation, to explore the nature and extent of financial, administrative and political obstacles that trigger regulatory policy failures in transitional economies.

Conclusion and Limitations

Conclusion

In this narrative review, we systematically reviewed the intricate and multi-scalar socioeconomic forces that govern environmental degradation globally. This paper is organised around four thematic pillars – economic growth paradigms, demographic and urban expansion, social inequality and power dynamics, and governance institutions in the age of globalization – that shift this focus away from single, isolated measures of variables. The principal contribution of this review is the integrated framework, showing that ecological degradation is not simply an inevitable consequence of the growth of GDP or population. Instead, it is formed by structural wealth inequities, institutional capacity and governance, and international trade inequalities (El Khoury et al., 2025; Rogers, 2014; Selles, 2013).

Ultimately, however, global ecological challenges cannot be solved by assuming that technological decoupling and self-correction by markets will happen automatically (Gültekin et al., 2023; McKinney, 2012). Long-term planetary sustainability requires an overall transformation of economic priorities, including redistributive social policies, powerful institutional enforcement, and clean technology transfers embedded in the developmental paradigms (Liang & Zhong, 2023; Naydenov, 2024; Strachan & Al Zohbi, 2025). Social equity and ecological stewardship need to be combined and embedded in future policy and research, to allow for actionable and context-specific pathways towards global sustainability, as humanity crosses into more precarious planetary boundaries.

Limitations

This narrative review offers a broad overview of the socioeconomic factors that contribute to environmental degradation, but there are some methodological and structural constraints. First, it was decided to limit the literature search to the Scopus database within a certain period of publication. Relevant empirical research not included in the major databases – such as Web of Science, PubMed or regional databases – as well as grey literature and publications in languages other than English were therefore excluded (Gasparyan et al., 2011; Snyder, 2019). Second, the review the literature shows an obvious sectoral and geographic disparity, a concentration on the analytical level in industrial energy emissions and formal macroeconomic indicators in high-income states. Informal economic activities, peri-urban activities, and subsistence resource extraction in developing areas, are relatively underrepresented (Abbas et al., 2020; Ogbudinkpa 2018).

Moreover, there are conceptual synergies between the main socio-environmental variables that pose analytical challenges. Some of the factors behind economic growth, industrialization, and urbanization are often indistinguishable in empirical work, either because they are correlated or because they are conceptually confounded (El Khoury et al., 2025; Yilanci et al., 2023). Lastly, as part of the core limitations of narrative review methodology, the selection,

classification and qualitative synthesis of the literature is done through interpretive evaluation, which can introduce subjectivity in the process of thematic mapping (Gasparyan et al., 2011; Snyder, 2019).

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