

Review

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Review

An Overview of the Current State of Social Ecological Economics Field: A literature Review

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Abstract: In 2023, the World Economic Forum reported the existence of high-severity global risks in both the short and long term, including climate change, natural disasters and biodiversity loss. In response, Clive L. Spash, a scholar specializing in ecosocial issues, has proposed a paradigm shift that considers the interconnection between ecological, economic, and social challenges, advocating for approaches that go beyond the positivistic approach of orthodox economics. He refers to this approach as Social Ecological Economics (SEE), a school of thought that has received limited attention, evident from the scarcity of publications on the subject. In light of this, the objective of this paper is to provide an overview of the key elements that define Social Ecological Economics as an alternative field within ecological thought. To achieve this, a literature review was conducted, employing open and in vivo coding using Atlas.ti 9 software. The findings identify the core components of Social Ecological Economics, organized into categories such as background, characteristics, dimensions, problems, criticisms, foundations, and proposals. These categories highlight the distinctive identity of this school. As this study is exploratory in nature, a future research agenda is proposed to further examine the relevance of this approach in tackling pressing global issues.

Keywords: environment; global issues; social metabolism; social ecological economics; Anthropocene; degrowth

1. Introduction

In the Global Risks Report 2023, the World Economic Forum (WEF) identified ten high-severity global risks with both short- and long-term implications, including insufficient climate change mitigation, failure of climate change adaptation, natural disasters and extreme weather events, biodiversity loss and ecosystem collapse, large-scale involuntary migration, natural resource crises, eroded social cohesion and social polarization, widespread cybercrime and cyber insecurity, geoeconomic confrontation, and large-scale environmental damage incidents. According to the World Economic Forum [1] failure to address these issues within the next two to ten years will have a profound and detrimental impact on global GDP, human populations, and available resources. Effectively responding to these challenges requires adopting qualitative, critical, and holistic perspectives that facilitate a deeper understanding of their root causes and the consequences they pose for both the environment and humanity.

In this context, Spash [2] argues that the severity of socio-environmental challenges, such as those previously mentioned, necessitates an approach that introduces alternative analytical frameworks grounded in interdisciplinarity, empiricism, and the integration of both qualitative and quantitative methodologies. This approach departs from the rigidity and formalism characteristic of mechanistic and reductionist paradigms. Spash thus advocates for Social Ecological Economics as an

alternative thought that promotes a shift towards an economic model of production and consumption in harmony with the environment. This model is based on respect for nature and seeks to provide solutions to humanity's problems—problems largely driven by a neoliberal system founded on the exploitation of natural resources, the excessive use of fossil fuels, irresponsible consumption, and the accumulation of wealth by privileged groups [3].

The origins of this perspective can be traced back to the 1980s, with the establishment of the International Society for Ecological Economics, which subsequently gave rise to the ecological approach of the European Society [2]. This school of thought has garnered increasing attention in recent years, especially in light of the pressing environmental crises as identified by the World Economic Forum [1]. This facilitates the convergence of diverse fields of knowledge, enabling a more humanistic understanding of society, the economy, and the environment. These are viewed as complex biophysical systems that operate within institutional structures shaped by rules, norms, conventions, and regulations [2].

SEE offers a critique of the capitalist mode of production that has dominated in recent decades and the externalities it has generated across ecological, social, economic, and political spheres [2]. However, despite the significant critiques and proposals this field of study provides for questioning and analyzing the status quo of global issues, awareness of this field remains limited, particularly in Latin America.

Given this gap, it is crucial to offer an overview that outlines the key characteristics of this school of thought and its stance on the current environmental crisis and its future ramifications. This study is especially relevant in the aftermath of a global health crisis as significant as the COVID-19 pandemic, as SEE may offer alternative and effective solutions to the problems arising from it, which warrant further exploration. Accordingly, the objective of this paper is to identify and analyze the core elements that define SEE as a critical and alternative field of study, providing a fresh perspective on the analysis and understanding of today's global challenges.

The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance. The current state of the research field should be carefully reviewed and key publications cited. Please highlight controversial and diverging hypotheses when necessary. Finally, briefly mention the main aim of the work and highlight the principal conclusions. As far as possible, please keep the introduction comprehensible to scientists outside your particular field of research. References should be numbered in order of appearance and indicated by a numeral or numerals in square brackets—e.g., [1] or [2,3], or [4–6]. See the end of the document for further details on references.

2. Materials and Methods

This study comprises a qualitative literature review, which facilitates the search, examination, and analysis of literature on a specific topic through an up-to-date exploration of the state of the art of a given field of study [4]. A search for scientific articles was conducted in three databases using the term Social Ecological Economics, focusing on works that included this term in their titles and keywords.

The first database searched was Web of Science, which yielded 12 documents [5–16]. Given the limited number of articles identified, a second search was conducted in Scopus, which resulted in the identification of eight [17–24]. To supplement both searches and with the aim of identifying additional studies, a third search was conducted in Semantic Scholar, yielding 11 works [25–35].

In total, 31 works were identified and analyzed using in vivo coding as [31] with Atlas.ti 9 software. The coding was also open [36] and inductive [37], as no pre-established categories were employed to guide the document review. This method aimed to generate codes that would support the construction of general categories, providing insight into the key elements [36] that define Social Ecological Economics as an emerging field of study with a distinct identity that differentiates it from other fields.

In total, 1,291 codes were generated, which were subsequently reviewed to eliminate duplicates or merge closely related codes. Ultimately, 991 codes remained, from which seven categories were

constructed. These categories provide an overview of the current state of SEE field: background, key characteristics, constituent dimensions, issues it seeks to address, critiques of other fields, foundational principles, and proposed solutions.

3. Results

This section presents the findings organized by the categorization mentioned earlier.

3.1. Background

Environmental economics emerged in the 1960s as the pioneering branch of economics dedicated to addressing the escalating ecological and health issues associated with pollution from agrochemicals, DDT, and radiation from nuclear bomb testing. Developed in the context of the Cold War, this field adopted a political stance that critiqued the ethical foundations of traditional economics, advocating for the resolution of both ecological problems and issues related to social equity, such as the fair allocation of resources, and opposing market-driven price mechanisms. However, with the advent of neoliberalism in the 1970s, the revolutionary orientation of environmental economics began to wane [5,23].

In the 1980s, ecological economics emerged as a more moderate approach, revisiting the principles of growth economics and seeking to integrate them with environmental concerns. The research agenda of this field centered on four main areas of inquiry: the identification of environmental problems as externalities arising from material and energy consumption to meet consumer demands; the damage inflicted by business practices; the development of methods to measure and quantify these damages monetarily; and the formulation of recommendations for the design and evaluation of public policies aimed at mitigating the adverse effects of the economic system and achieving a more efficient allocation of resources [23].

Although ecological economics initially emerged as a critique of orthodox economic paradigms, Spash [5] contends that, over time, this perspective has assimilated some of the economic principles it originally sought to challenge. For instance, certain conservative proponents within the field argue that environmental issues are merely negative externalities of the economic system that should be managed by governmental intervention. However, they overlook the fact that these problems are not solely negative externalities of a growth-oriented economic system but also stem from various market failures. These include the formation of monopolies by industries, information asymmetry in markets, and the market's inability to ensure a conscious and responsible distribution of natural resources [19].

In response, thinkers within the same field have voiced their discontent with the lack of a deeper critique of the economic paradigm and these market failures. This faction argues that by accepting the parameters of growth economics and market practices based on price-setting, ecological economics has become a superficial field in need of developing a revolutionary yet realistic way of thinking [6].

In this context, Spash and Ryan [27] contend that ecological economics has developed into a heterodox field encompassing three distinct schools of thought, each with its own theoretical and ideological positions. The first school is composed of new resource economists, who advocate for the principles and models of neoclassical economics as practical solutions to ecological problems. The second school consists of new environmental pragmatists, who adopt an activist stance and promote practical, solution-oriented approaches to environmental issues, often eschewing theoretical and scientific considerations. The third group, known as Social Ecological Economists, represents the most radical faction, calling for the establishment of an alternative theoretical, epistemological, and methodological framework that critiques neoclassical economic principles and addresses the superficiality of responses that lack a multidimensional perspective [6,12].

Building on the work of scholars such as Otto Neurath, William Kapp, Karl Polanyi, and Nicholas Georgescu-Roegen, this last faction has been termed Social Ecological Economics by Clive Spash [32]. Spash highlights this field's interest in integrating social, biophysical, political, environmental, and other factors into the understanding, analysis, and management of ecological

problems [26]. Below, we outline some of the key characteristics of this school, identified through the literature review.

3.2. *Characteristics*

Social Ecological Economics represents a school of thought within ecological economics that emphasizes the necessity of developing an alternative social theory and philosophy of science. These alternatives seek to provide robust, realistic, and viable solutions to the pressing ecological challenges facing both the planet and humanity [22,32]. Given its objectives and the relatively recent emergence of this perspective, SEE is characterized by distinct features that establish its identity as a unique field of study, differentiating it from the other two strands of ecological economics outlined by [27].

As noted by Spash [15] and Petit [20], one of the key characteristics of SEE is its emergent paradigm, which critically examines economic systems grounded in capital accumulation and proposes alternatives for equitable social provisioning. Another key element of SEE is its commitment to critical realism in analyzing the economic, social, and political structures and mechanisms that perpetuate cycles of inequality. In this framework, reality is understood as a metaphysical construct, wherein its various layers—biophysical, social, and economic—function as interconnected open systems. These layers are governed by a principle of causality, meaning that changes in one layer inevitably influence the others [22,28].

The historical-materialist approach is another core feature of Social Ecological Economics, as it frames the subject as a knowing agent of transformation and the object as the processes or phenomena resulting from their actions. This approach enables the analysis of ecological issues through concepts such as capitalist production, regulation, and hegemony. One distinctive aspect of SEE is its emancipatory agenda, focusing on the obstacles and conditions necessary for achieving a genuine transformation of social relations and the interactions between humanity and biodiversity [17].

Another defining element of SEE is its commitment to interdisciplinarity, fostering critical engagement with other fields of knowledge to create collaborations between the social and natural sciences [32]. This interdisciplinary approach aims to integrate novel perspectives, theories, and methodologies, enabling the formulation and implementation of viable solutions to today's most pressing environmental challenges [18]. For instance, SEE draws on insights from feminist economics, particularly regarding the reproduction of gender roles and the unrecognized labor of women, as well as Marxist political theory, which addresses issues of power, class, domination, and exploitation [22].

As a relatively young field, SEE is characterized by both fluid boundaries and heterogeneity, reflecting its emphasis on integrating diverse disciplines to address ecological problems. On the one hand, by incorporating fields such as economics, political science, and social psychology, SEE blurs the line between being a social science that engages with environmental issues and an ecological field that adopts a social perspective. On the other hand, the challenge of synthesizing such diverse perspectives has resulted in a body of knowledge that remains somewhat heterogeneous, at least during this early stage of its development [10].

Further, Spash [5] highlights that one of the key distinctions between SEE and conventional ecological economics is ESE's desire to combine different heterodox schools of thought (ecological, critical institutional, evolutionary, post-Keynesian), which directly contrasts with the drive for recognition within and by orthodox economics. According to the author, through the weaving of interdependent yet localized narratives, a robust heterodox movement can emerge, challenging the dogmatic and universalist principles of neoclassical economics.

In sum, SEE stands out as a field that seeks to provide a multidimensional perspective on the phenomena and challenges it addresses [18]. The following sections will outline the specific dimensions identified in the literature review.

3.3. *Dimensions*

The first dimension identified is the biophysical, as this perspective is founded on the principle that the Earth operates as an open system composed of interconnected subsystems, where changes

in one have repercussions on the others [2]. This system is governed by the laws of thermodynamics, which dictate that energy can neither be created nor destroyed, only transformed. However, with each use, energy dissipates and becomes less useful. This irreversible process increases the system's entropy, signifying a tendency toward disorder and imbalance. The survival of both human and non-human life depends on the continuous exchange of materials and energy. While organisms and ecosystems possess the capacity to avoid or reverse entropic decay, doing so requires energy and materials, which must be extracted from other subsystems. This dynamic leads to exploitative practices of natural resource extraction, despite their finite availability [21,22].

The social dimension is equally crucial in this framework, as it emphasizes the dialectical relationship between actors and objects, between being and having, in which relationships develop that can only be understood through social interactions [11]. As Spash, Méral and Petit [24] argue, any system involving human beings should be understood as a social system. According to Kish and Farley [14] such systems are shaped by values, relationships, behaviors, and collective actions that transcend individual interests and exert a profound influence on the system's overall functioning. Additionally, Spash and Guisan [22] contend that mainstream economics reduces the social system to a mere aggregation of individual maximizers pursuing uniform goals, a simplification that overlooks the historical context of production and consumption patterns, as well as how these patterns have been deeply rooted in social institutions and values.

From the economic dimension, SEE challenges the principle of instrumental rationality in orthodox economics, arguing that economic systems are not monolithic entities driven solely by profit maximization and economic growth. Instead, they are shaped by elements drawn from other dimensions [23]. Spash [15,23] contends that many environmental and social problems have emerged from this conventional thinking, which portrays individuals as being pulled into the social metabolism of the traditional economy, working and living close to food and resources for local and regional use, and relying on animals, not machines, to complement labor [23]. To address this, a human-centered economy must be developed, distancing itself from individualism [35] and instead grounding economic decisions in social frameworks that take into account the societal costs of production practices [24].

Kish and Farley [14] emphasize that economic systems vary significantly depending on the culture in which they are embedded and are not separate from culture but rather integral to it. Culture, they argue, is fundamental to human existence and social constructs, meaning that nothing in economics can be understood without the context of cultural evolution. Social norms are the result of collective learning processes [28] reflected in diverse values, motivations, and beliefs that influence human conflicts, all of which must be considered in resolving these conflicts [14]. The authors further argue that environmental conflicts have frequently been addressed through a narrow focus on monetary values, commodifying nature, despite their complexity and the need for consideration of the broader cultural values that underlie these issues.

The institutional dimension refers to the rules or myths that are internalized within economic systems, providing meaning and legitimacy to individual actions, and creating a sense of order and control [13,17]. When these rules or myths no longer support the system's actions, a process of institutional change is initiated, leading to a reorganization of the system [28]. Following this logic, Spash [12] argues that markets are institutional processes that can be redesigned when they no longer address the needs or challenges faced by humanity and the planet. He advocates for the development of new institutional designs based on equitable provisioning, fundamentally opposing the current capitalist system.

Politics, asserts by Brand [17] is structurally linked to both social and economic systems, and its influence on humanity's social and economic challenges should not be ignored. The political realm is where decisions are made and the formal rules governing economic exchange are set [29]. However, these rules are not exempt from the influence of power relations, interest groups, and hegemonic structures that contribute to the reproduction of inequality [20]. Spash [30] stresses that the impact of these factors on economic systems cannot be overlooked. From a political perspective, governance is seen as a potential avenue for achieving sustainable development and responsible resource use [19].

Yet, Bolognesi, Buchs and Renou [28] argue that such a system can only function effectively if it safeguards social diversity and political rights, and overcomes the tension between emerging political citizenship and the challenges of solidarity and participation inherent in collective action.

The political dimension is closely connected to the strategic dimension, which refers to the way formal structures and rules regulate individual behavior without fully constraining it. In response, actors often seek to strategically modify these structures and rules to align with their interests. Consequently, action is both structured and structuring: it is shaped by established structures but also modifies them through the strategic behavior of individuals [22]. In this context, Kish and Farley [14] argue that the key challenge is to transform the hegemonic structures that have been formed by the strategic actions of dominant groups. Nevertheless according to Brand [17] this strategic dimension has been largely absent from debates on the transformation of current economic systems.

Lastly, the literature review identified an ethical dimension. Spash [12] highlights the importance of developing an ecological school of thought rooted in a robust ethical framework, one that goes beyond serving as a mere adjunct to positivist science. This framework should critically assess the costs imposed by the capitalist economic system and challenge practices that perpetuate inequality [9]. Specifically, Spash [18] calls for an environmental ethic that fundamentally critiques dominant anthropocentric ethical systems in order to properly value the non-human world, thus requiring new ethical approaches in which justice lies at the core. The following section outlines the key issues identified in the literature review as the primary concerns of SEE.

3.4. *Issues*

Among the ecological issues addressed by Social Ecological Economics are those related to the climate crisis, including the depletion of stratospheric ozone linked to fossil fuel consumption [5], destruction of ecological habitats, global warming, and climate change [21,23]. Other concerns include water pollution from chemical waste discharges into oceans, the appropriation of aquifer resources by industries, and excessive use to meet human needs, among other factors [10,28]. Deforestation and soil erosion are also critical issues, exacerbated by rising urbanization and the use of chemical pesticides or highly industrialized agricultural practices [11].

Moreover, from this perspective, bio-physical problems are interconnected with broader economic and social issues. Economically, issues arising from capitalist practices include the expropriation of ecological wealth and the privatization of natural resources, particularly in less developed countries [12]. This is further compounded by capital accumulation, price speculation, cost externalization, labor exploitation, and economic crises [22].

These economic problems are also linked to social issues such as the exclusion or discrimination of marginalized groups, mass migration of rural populations, and the loss of cultural identity resulting from displacement [21]. Additionally, urban expansion and gentrification have led to population concentration and the privatization of public spaces through the establishment of shopping centers or industrial parks, which in turn affects leisure and recreation by promoting consumption driven by these developments [23]. Public health problems are also intensified, reaching epidemic or pandemic levels, as evidenced by poor nutrition leading to malnutrition and diabetes, or food contamination from pesticides and chemical fertilizers contributing to increased cancer rates [5]. Furthermore, there is the issue of resource dispossession from future generations, depriving them of resources to which they should have a legitimate claim [8].

3.5. *Critiques*

One of the primary critiques leveled against ecological economics by this perspective concerns its defense of the principles of growth economics and price-setting markets. According to Spash [15] advocates of economic growth are overly optimistic in believing that the market operates as a harmonious space where exchanges occur on equal terms, and where the wealthy and the poor come together to forge a new world order in which everyone benefits. He argues that competition within a growth economy takes place under inherently unequal conditions, as the parties involved in economic exchanges possess unequal starting resources, and information asymmetry prevails. This,

in turn, leads to opportunistic behavior, the formation of monopolies, and the creation of negative externalities, which disproportionately burden the poor, revealing the hegemonic nature of the system [12,32]. Hence, Kish and Farley [14] contend that pursuing Pareto efficiency in an economic system premised on the extraction of natural resources and the waste emissions inherent to economic production is fundamentally irrelevant. Similarly, Leonhardt [29] argues that an approach to growth based almost exclusively on GDP is a narrow view that fails to grasp the causes and consequences of existing problems.

Another central criticism of SEE is directed at what it perceives as the “passive revolution” led by new resource economists and new environmental pragmatists. The former are criticized for attempting to address the problems caused by an economic system based on price-setting and growth while paradoxically defending the very system responsible for these issues [8]. Spash [32] points out that this represents a fundamental contradiction, preventing these economists from proposing genuine, deep-rooted change. The new environmental pragmatists, meanwhile, are criticized for, despite their rhetoric being grounded in radical environmentalism, failing to offer alternatives capable of transforming the structures and power relations that perpetuate hegemonic oppression. As a result, their critique is often absorbed and repurposed by the existing system, which uses it to justify or stabilize the prevailing status quo through the commodification and financialization of nature [21].

Social Ecological Economics also challenges the positivist approach that ecological economics adopts in addressing environmental issues. According to Spash [26], the solution to these issues does not lie in the uncritical and mechanical application of orthodox economic principles—validated by normal science—to ecological problems, which affect different regions in varying ways depending on local conditions. Moreover, applying utilitarian and instrumentalist economic principles to the management of natural resources implies viewing individuals as rational actors, or *homo economicus*, who always seek to maximize utility based on cost-benefit calculations. This approach overlooks the reality of bounded rationality and other crucial factors, such as emotions, psychology, and social embeddedness, which shape human decision-making and actions [18].

Spash [26] further notes that although logical empiricism has evolved as a counter-approach to positivism by advocating for the empirical verification of arguments, the core issue remains that there is no clear distinction between what is observable and what is not. Consequently, any observation requires both selection and interpretation by the observer, and theory often becomes intertwined with facts. This means that, under this framework, one can easily fall into relativism, where individual observations—lacking a strong theoretical foundation—are mistaken for objective truths [26]. Compounding this problem is the reliance on deductivism through abstract mathematical models, which are often universally accepted as unquestionable, despite being far removed from reality. While these two approaches may seem opposed, Spash and Guisan [22] argue that they are frequently combined in conventional economics, leading to what they describe as pseudological empiricism or naïve objectivism.

In concluding its critique, Spash [12] argues that the interdisciplinarity necessary to address ecological problems should not be confused with the eclectic pluralism promoted by conventional economics. Spash (2020b) asserts that when conventional economics has not ignored or downplayed the criticisms and proposals from alternative disciplines, it has incorporated and muted them, attempting to harmonize differences that are, in fact, irreconcilable. As a result, even when economics integrates other approaches, methodologies, and concepts, it does so in a strategic manner aimed at concealing a lack of true transdisciplinarity [32].

3.6. Foundations

According to Spash [25,26] the foundational elements underpinning the critiques and proposals of the School of SEE can be classified into four categories: ontological, epistemological, methodological, and ideological.

The ontological foundations focus on analyzing and understanding reality as a metaphysical construct that exists independently of human beings and their perceptions. Thus, SEE acknowledges

the existence of an independent, non-human reality that is nonetheless affected by human actions [25]. These principles challenge the truth claims of universalist models, which have been shaped by subjective perspectives and seek to make reality conform to their propositions, rather than offering a close and critical interpretation of actual reality [9]. In this context, Spash, Méral and Petit [24] emphasizes that, in the process of conceptualizing and constructing knowledge, we do not construct reality itself but rather a comprehension of it—one that must remain as faithful as possible to the biophysical, political, social, and other characteristics that define it.

In terms of epistemological foundations, SEE underscores the importance of building a solid theoretical basis for understanding the world, generating knowledge about it, and reflecting on the true meaning of knowing [25]. As such, Spash [25,26] argues that SEE aims to develop a critical epistemology by drawing from heterodox schools of thought that challenge and deconstruct existing paradigms, rather than defending a single paradigm, as orthodox economics tends to do. This approach promotes a reflective and committed stance toward the implications of the ideas it upholds. According to Petit [20], such a commitment entails accepting the complexity of reality and seeking theoretical or analytical tools that allow for its analysis without oversimplification. While empirical analysis is crucial, the author argues, a variety of theories and methods must be selected in a critical and reasoned manner; as Spash, Méral and Petit [24] note, unstructured methodological pluralism—which indiscriminately accepts any theory or methodology—is equally problematic.

The methodological foundations of SEE are closely linked to its rejection of uncritical and unstructured methodological pluralism. Spash [15] contends that methods leading to a fragmented understanding of reality should be avoided, even if they are fashionable within the scientific community. Similarly, Buchs, Petit and Roman [10] note that SEE opposes methodologies that reinforce dualisms within science, such as inductive versus deductive approaches, quantitative versus qualitative methods, experimental science versus normative science, and holism versus individualism. Kish and Farley [14] argue that these dualisms are obsolete in light of the complexity of contemporary issues and the uncertainties of the future. In response, Spash [25] does not reject the need for methodological pluralism but advocates for a structured and critical form of it, recognizing the necessity for methodologies that can both bridge theoretical work with fieldwork and address the various temporal and conceptual dimensions of reality in depth.

On the ideological front, SEE acknowledges the role of ideology in the formation of knowledge and argues that treating ideology as a bias or attempting to eliminate its influence—as logical empiricism does—avoids taking ethical responsibility for the knowledge being disseminated [23]. Spash [25] argues that the supposed neutrality of mainstream science should be discarded, and each school of thought should make explicit its stance on the problems or phenomena it addresses. Accordingly, the author asserts that the ideological principles of SEE are grounded in rejecting scientific neutrality, respecting all forms of life, opposing gender and social inequality, aspiring to values beyond hedonism, advocating for limitations on human activities, and resisting consumerism and unchecked warfare, among other key principles. However, Spash [6] himself recognizes that merely making an ideology explicit is insufficient; it is also necessary to take concrete actions that facilitate changes in ideas, values, and behaviors.

3.7. *Proposals*

The most representative proposal of Social Ecological Economics involves a radical paradigm shift [24]. Spash [25] contends that this school of thought emerged as a response to the dominant apologetics, pragmatic conformity, and the misinterpreted postmodern pluralism within mainstream economics, as well as the social organizations and institutions that propagate an ideology disconnected from contemporary realities. As an alternative, SEE advocates for a socio-ecological paradigm that incorporates contributions from post-growth, eco-socialism, ecofeminism, among others [32].

According to Barnthaler, Novy and Plank [34], this paradigmatic transformation requires a dual strategy that rejects both market and state irresponsibility, as well as paternalistic approaches. They argue against placing undue hope in the idealism of bottom-up governance, instead advocating for

systemic change grounded in the social legitimization or contestation of political decisions. While acknowledging that this represents a challenge for social participation, Barnthaler, Novy and Plank [34] maintain that it is a necessary pathway for the formulation of concrete policies that address local issues arising from the impacts of a globalized capitalist system.

In this context, SEE advocates for the adoption of post-growth or degrowth principles in a reasoned and critical manner, rather than through idealism [33]. Spash [32] argues that a post-growth economy must extend beyond the mere search for new forms of exchange, engaging with the long historical tradition of non-monetary economies. He further emphasizes the importance of recognizing the entropic effects of economic systems and the roles that money and pricing have played in exacerbating these impacts. In contrast, Spash proposes a post-growth economy that not only challenges, but seeks to reconstruct current social and political structures, which often overlook fundamental issues such as the role of women and unpaid female labor [7]. Although these concerns have increasingly been highlighted by ecofeminist thought, Spash [32] asserts that much work remains to be done.

The study by Bolognesi, Buchs and Renou underscore that value pluralism is one of the key tenets of SEE, advocating for the recognition of diverse ethical, political, social, and economic perspectives on environmental issues. According to Calvo-Mendieta, Petit and Vivien [8], SEE's emphasis on value pluralism is intrinsically linked to its critique of utilitarianism and instrumentalism, which are perceived as overly restrictive frameworks for understanding contemporary realities. This school of thought not only advocates for the integration of value pluralism but also for engaging with the inherent conflicts between these values. The concept of value pluralism is closely associated with SEE's call for alternative methods of analysis, as Spash [26] and Barnthaler, Novy and Plank [34] argue that addressing this plurality requires transdisciplinary and incommensurable approaches, which, through both theoretical and empirical work, can provide a genuine contextualization of what is valued by humans and the planet at large.

Another central proposition of SEE is the development of an emancipatory role for science. According to Spash [12], this school of thought seeks transformation, and academic activism is fundamental to achieving this goal, as it is the primary means by which critical approaches—such as degrowth and post-normal science—can be disseminated. While post-normal science remains anchored in vague ontological assumptions and an underdeveloped methodology, its focus on addressing global challenges beyond controlled laboratory settings and its call for the participation of lay publics represent a challenge to logical empiricism, thereby contributing to the emancipatory potential of science [25,26]. This scientific approach also necessitates the adoption of an academic position as a political act aimed at social reform and emancipation [18], which in turn calls for the critique and dismantling of institutions that uphold fallacious ideas, as emancipation must be understood as a transformative process [22].

Spash [31] asserts that the predominance of orthodox economic thinking in the study and treatment of global challenges has created false dichotomies that obstruct a comprehensive understanding of these issues in their full complexity. These false dichotomies perpetuate claims of truth and entrench beliefs such as the superiority of the natural sciences over the social sciences, quantitative over qualitative approaches, economic over social considerations, the practical over the theoretical or vice versa, humans over non-human life forms, objectivity over subjectivity, and the universal over the local [25]. According to Spash [26] these dichotomies are unjustifiable as they are part of the multidimensional and interconnected nature of reality. Therefore, Brand [17] argues, these elements—often thought of as oppositional—should be considered inherent features of reality and given equal attention.

In this regard, Kish and Farley [14] contend that eliminating notions of human superiority over nature could facilitate a transition from the Anthropocene to the Ecozoic era. The authors assert that the Anthropocene has been characterized by human domination over natural processes, the defense of Western scientific methods and economic growth, and the rejection of alternative ways of knowing, thinking, and being. In contrast, the transition to the Ecozoic will require an ontology or worldview in which humans are part of an interconnected, mutually interdependent web of life; an epistemology

based on subject-subject relationships; and an axiology grounded in relationality and reciprocity [14]. Brand [17] concludes that moving beyond the Anthropocene necessitates a profound transformation aimed at dismantling those structures that have served as mechanisms of control and have impeded social and ecological change.

4. Discussion and Conclusions

The background, characteristics, dimensions, issues, critiques, foundations, and proposals identified in this study underscore that Social Ecological Economics constitutes a distinct intellectual paradigm, differentiating it from other fields within economic and ecological inquiry. Moreover, they highlight a genuine commitment to achieving a realistic and multidimensional understanding of contemporary problems, aimed at fostering ethical and emancipatory transformation by addressing social injustice and inequality [6].

Figure 1 presents an overview of the main elements of Social Ecological Economics identified in the literature review.

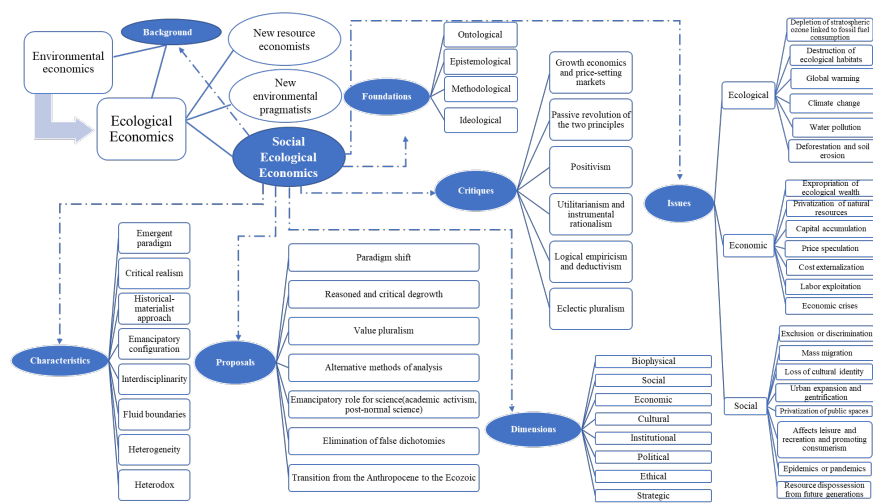


Figure 1. The current state of Social Ecological Economics.

While SEE’s analytical contributions to the study, understanding, and transformation of current global challenges are evident, several obstacles remain concerning its emancipatory objectives. As with any radical movement that challenges dominant hegemonic paradigms, SEE may adopt positions that appear complex or contradictory [12]. One of the significant challenges facing SEE is solidifying its status as a distinct field of study, separate from new resource economists and emerging environmental pragmatists. Buchs, Petit and Roman [10] contend that, despite the strength of its arguments, the conceptual boundaries of this third school remain ambiguous. According to the authors, the theoretical distinctions made by Spash [27] between the three schools are difficult to discern when applied to practical issues. For instance, the concept of water footprint or virtual water, they argue, cannot be readily associated with a single school of thought.

As with any movement, Social Ecological Economics requires both revolutionary intellectuals and dissenting leaders [15]. A key challenge is how to stimulate interest among intellectuals and scholars to disseminate and commit to the principles espoused by this school of thought. This involves encouraging them to move beyond the comfort zone and objectification entrenched by orthodox positivism. Western science remains deeply embedded in the scientific paradigm [12] as evidenced by publication sources—whether in natural or social sciences—that show a marked preference for quantitative methodologies and empirical studies [14]. Given this, it is imperative to consider how to counter the established scientific status quo and identify alternative methods that could support an emancipatory shift in scientific practice.

In summary, this work's primary contribution lies in offering a preliminary overview of SEE. This perspective may be particularly valuable for those encountering the topic for the first time, especially in Spanish-speaking countries, where, until this study, no works in Spanish had addressed the subject. As this initial exploration is exploratory in nature, future research should focus on a more comprehensive examination of the contributions and challenges that SEE presents for understanding and addressing the current global issues facing humanity.

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