
**THE INTERFACE OF SUSTAINABLE DEVELOPMENT AND
DEGROWTH IN THE PURSUIT OF SOCIOECONOMIC AND
ENVIRONMENTAL BALANCE IN CONTEMPORARY SOCIETY**

***A INTERFACE DO DESENVOLVIMENTO SUSTENTÁVEL E DO
DECRESCIMENTO NA PERSECUÇÃO DO EQUILÍBRIO
SOCIOECONÔMICO E AMBIENTAL NA SOCIEDADE
CONTEMPORÂNEA***

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ABSTRACT

Objective: This work presents, as objective an essay about the economy, which is still based on anthropocentric concepts of the theory of economic rationality and sustains unlimited growth, but it is unconsidered the finitude of natural resources. This causes social and economic problems as well as environmental imbalances.

Methodology: Thus, using the deductive method and analyzing the data compiled from books, magazines and the Internet, starting from a macro-analytical premise of the



database to another microanalytical (deductive) issues raised, it was possible to clarify the questions presented.

Results: The hypotheses about which one is capable of solving the aforementioned problems today are: the two theories, in different ways are appropriate and solve; both proposals are unable to resolve; only the proposal for sustainable development is able to solve; and only the degrowth of the economy can solve. To ascertain which of the propositions currently, is the most appropriate to solve the problems generated by the economy of economic rationality, especially environmental degradation, the loss of quality of life, global warming and the exhaustion of nature and life itself on the planet, both were studied. Thus, it was understood that both proposals, as they are presented, are not able to solve the above problems. However, the fusion of them is a great alternative for the solution of the socio-economic and environmental matters.

Contributions: This point made questions and proposals for a solution, such as the sustainable development are established by the theories of Juarez Freitas, Klaus Bosselmann and the United Nations itself and, on the other hand, the economic degrowth, followed by Enrique Leff, Serge Latouche, Alberto Acosta and Eduardo Gudynas in reconstruction of the new paradigm of economic development based on the use of a renewable energy matrix, on conscious consumption and environmental sustainability to be applied to achieve the socio-environmental balance.

Keywords: Sustainable development; Economic degrowth; Socio-environmental; Economic rationality; nature.

RESUMEN

Objetivo: *Este trabajo presenta como objetivo un ensayo sobre la economía, que aún se basa en los conceptos antropocéntricos de la teoría de la racionalidad económica y sustenta un crecimiento ilimitado, pero no considera la finitud de los recursos naturales. Esto provoca problemas sociales y económicos, así como desequilibrios medioambientales.*

Metodología: *Así, utilizando el método deductivo y analizando los datos recopilados de libros, revistas e Internet y partiendo de una premisa macroanalítica de la base de datos a otra microanalítica (deductiva) de las cuestiones planteadas, fue posible esclarecer las cuestiones planteadas.*



Resultados: *Las hipótesis sobre cuál es capaz de resolver los problemas mencionados hoy en día son: las dos teorías, de diferente manera se adecuan y resuelven; ambas propuestas son incapaces de resolver; sólo la propuesta de desarrollo sostenible es capaz de resolver; y sólo el decrecimiento de la economía puede resolver. Determinar cuál de las proposiciones actualmente, es la más adecuada para resolver los problemas que genera la economía de la racionalidad económica, en especial la degradación ambiental, la pérdida de la calidad de vida, el calentamiento global y el agotamiento de la naturaleza y la vida misma en el planeta, ambos fueron estudiados. Por lo tanto, se entendió que ambas propuestas, tal como se presentan, no son capaces de resolver los problemas anteriores. Sin embargo, la fusión de los mismos es una gran alternativa para la solución de los asuntos socioeconómicos y ambientales.*

Contribuciones: *Este punto hizo cuestionamientos y propuestas de solución, como el desarrollo sostenible que establecen las teorías de Juárez Freitas, Klaus Bosselmann y las propias Naciones Unidas y, por otro lado, el decrecimiento económico, seguido por Enrique Leff, Serge Latouche, Alberto Acosta y Eduardo Gudynas en la reconstrucción del nuevo paradigma de desarrollo económico basado en el uso de una matriz energética renovable, en el consumo consciente y la sustentabilidad ambiental a aplicar para lograr el equilibrio socioambiental.*

Palabras-Clave: *Desarrollo sostenible; Decrecimiento económico; Socioambiental; racionalidad económica; naturaleza.*

1 INTRODUCTION

The ecologically balanced environment is an individual and transindividual right that is guaranteed for these and future generations. This intergenerational right was ensured, first in the 1972 Declaration of the Environment, held in Stockholm and sequentially in the constitution of several countries, including the Brazilian one, in Chapter VI, of the environment, article 225 of the CF/88 "Constitution of the Federative Republic of Brazil of 1988". The right to development, which is also protected at the individual and above individual level, is established in the UN Declaration on the Right to Development



"United Nations" of 1986 and is guaranteed in Article 3, Item II, Article 21, Item IX, and Article 174, § 1, all of the Federal Constitution of 1988.

As seen, both rights are guaranteed at the international level and in the Brazilian legal system. Therefore, economic development must occur in harmony with environmental protection and preservation. But this is not a constant in many cases development occurs under the anthropocentric concepts of economic rationality, which aims at unlimited growth, but ignores the environmental degradation generated in the productive process. With this, several problems are still caused by this economic model, such as environmental degradation, loss of quality of life, global warming, exhaustion of nature and the commitment of human existence and the planet earth itself.

In order to achieve the solution of such problems, several socioeconomic and environmental proposals have emerged in contemporary society, however the following stand out: sustainable development, advocated by Juarez Freitas, Klaus Bosselmann and the United Nations itself, and, on the other hand, economic degrowth, professed by Enrique Leff, Serge Latouche, Alberto Acosta and Eduardo Gudynas, among others.

Both propositions aim to protect nature, but in different ways, the former seeks to achieve economic development with environmental sustainability, but with growth, while the second is based on the degrowth of the economy, which in fact is not the reduction of growth, but the containment of this growth. Degrowth proposes a behavioral change in consumer society. That is, reduce consumption to cease the process of economic growth.

In the current context, which of these two proposals can effectively solve the socioeconomic and environmental problems generated by the economy of unlimited growth? To answer this question, both propositions were studied and four hypotheses were outlined to determine which one is able to solve the aforementioned problems. The hypotheses are: both, in different ways are appropriate and solve the problem; both proposals are inappropriate and unable to resolve; only the proposal for sustainable development has the capacity to solve; and only the degrowth of the economy can solve.



Thus, using the data from reference books, scientific journals and the Internet studied in this research, through the deductive method, starting from a macro-analytical premise of the said database to another microanalytical (deductive) database, it was possible to clarify the questions presented above. For this, it was analyzed: the construction of environmental sociology; sustainable development and degrowth in the face of sociological theories of environmental protection; the deconstruction of utilitarian logocentrism and the reconstruction of the new paradigm of economic development and in the fourth chapter, a parallel analysis was made between sustainable development and economic degrowth in the search for the solution of contemporary socioeconomic and environmental problems.

2 THE CONSTRUCTION OF ENVIRONMENTAL SOCIOLOGY

The right to development was formally declared by the UN in 1986. However, development can occur in a balanced and sustainable way or as it occurs in the model of economic rationality, without any socio-environmental control. Flavia Piovesan (2019), stresses that the right to development is essential to achieve social justice. The States have a duty to encourage the broad participation of the population as an important factor for the right to development and the realization of human rights. The principles of participation and accountability are central to the right to development.

Precisely this evidence of the tangible is no longer valid in the risk society. The visible occurs in shadows and invisible threats. What escapes perception no longer coincides with the unreal, and may even have a high degree of concreteness in terms of threat. The immediate need rivals the content of the risk. The world of visible neediness or abundance is shadowed under the weight of superiority of risk forces. The race fought between perceptible wealth and imperceptible risks cannot be won by these. The invisible cannot compete with the visible. The paradoxical thing is that, precisely for this reason, invisible risks end up winning the dispute (Beck, 2011, p. 54).



The exploitation of natural resources in the model of infinite growth does not occur in a sustainable way. Julios-Campuzano (2009, p. 97) warns: “this domain that the capitalist system exercises over the political space restricts the public sphere and drastically limits democratic discourse, thereby restricting the capacity of citizenship to modulate specific strategic actions and political programs”.

Gustavo Zagrebelsky (2016) asserts that the demographic explosion has accentuated globally the perception of the finiteness and the rigidity of natural spaces and externalized the inevitable confinement relationship between all living beings. But the most relevant novelty, which changes the coexistence of the human beings with the environment, is that, for the first time, nature lost its resilience, its ability to live and regenerate itself. To prevent disaster, climate change must be stopped. Therefore, man must treat the planet differently to alleviate the damage he himself has caused.

However, awareness of the need to maintain good exploratory practices of natural goods and environmental preservation are not yet consolidated, as they should. With this, nature, the human being and the planet earth itself are harmed and exposed to various and undesirable ailments.

Never in human history has political life been saturated by so much knowledge about an impending global emergency. However, instead of contributing to balanced public responses, the rhetoric of the breaking points accelerates the problem and meddles in the path of sociopolitical reflection. [...]. At the same time as the specter of climate change reveals the need for a large-scale politics for the planet itself, global politicians are faced with the utter impotence of existing national-international politics. [...]. If we consider how the issue of climate change fits into the current perspective in politics and the social sciences, we can see the limitations of ‘methodological nationalism’ (Beck, 2016, pp. 53-55).

In the second half of the 20th century, more precisely, after the 1960s, several emancipatory and ecological social movements broke out in society. These movements



have surfaced in society as a crisis of knowledge, but were also driven by cultural, political and conceptual divergences.

In the late 1960s and early 1970s, the environmental crisis erupted in the world. The environmental issue emerges as a crisis of knowledge, generated by ways of thinking, knowing and intervening in the world; of a mode of production of the reality of the world that, by becoming hegemonic, dominant and global, built an unsustainable world. Cartesian ontological dualism, by dissociating the object and subject from knowledge, laid the methodological bases for the construction of the scientific paradigms of modernity derived from the metaphysical understanding of the world (Leff, 2016, p. 140).

These mobilizations questioned the mechanistic economic model, the egalitarian distribution of social resources and advocated the preservation of nature. According to Ronald Dworkin (2011), the market idea for material goods fits into political and economic theory since the eighteenth century in two different ways. It is noted as a mechanism that makes it possible to define and achieve certain utilitarian goals, aiming to achieve the efficiency of the process and socioeconomic prosperity, but also as a necessary condition of individual freedom and free initiative. That is, the market is defended and emphasizes the general gains that the mechanism provides to the collectivity and, by contradictory principled arguments, offer a supposed right to freedom. A prudent and balanced policy would consist of seeking parity, isonomy and other values that constitute economic theory or replace it with another economic model.

The appropriate would be the socioeconomic equity among the forces that make up the market. But, for Zygmunt Bauman (2001, p. 153), “this is not exactly what happens in the society of liquid modernity, they are commanded by escapees, those who are free to move imperceptibly”.

With the same understanding, Slavoj Žižek (2011, p. 414) points out that the most common liberal counterargument to those who challenge the "invisible hand" of the market that controls our destiny is based on the question: if the price of releasing the invisible



hand from the market is the control of the invisible hand of our rulers, will we still be willing to pay it? According to the aforementioned author, yes, it is worth paying, if this invisible hand is not visible to any of the parts, and controlled by it.

However, in the 1960s, countercultural movements, led by young people, trade unions and students, fell as a "bombshell" in society, demanding social and ecological changes. These movements questioned the Western ideology - Enlightenment - of freedom and reason, the support of the economic dogma of progressive growth and an instrument of economic rationality, which is based on science and technology for the accumulation of capital to the detriment of the irrational exploitation of nature (Leff, 2008).

According to Zygmunt Bauman (2001), the movements of explosive communities extract their power, precisely, from their fragility, vigilance and emotional appeal and, although they occur in a given territory, their projection is extraterritorial. The author also states that the explosive nature of these movements blends very well with the identities of the net modern era, which tend to be volatile, transient and focused on the aspect or sole purpose. As a rule, such movements are short-lived, but are furious and noisy.

Hans Jonas, on the other hand, warns that, in the age of technical civilization, human collective behavior must be based on the future of humanity and that this future must include nature irrefutably. But he questions that despite this conditioning, the preservation of nature has become a metaphysical responsibility, given that man has become dangerous not only to himself, but also to the ecosystem. Moreover, anthropocentrism, which differentiates the human being from the rest of nature, harms and atrophied its essence, because it contradicts its primary objective, which is its dignity and its own preservation. In a truly humanistic perspective, nature maintains its dignity, which is opposed to the arbitrary power of man, because being products of the environment should preserve it (Jonas, 2006).

From the 1970s on, with the edition of the Universal Declaration of the Environment, which took place in 1972, during the first United Nations conference on the



human environment, held in Stockholm, environmental rights were conceived and valued in a way that is more compatible with their importance. In the above-mentioned Stockholm Declaration, it was established that natural resources - soil, water, flora and fauna - must be kept appropriately for the benefit of current and future generations. In addition, it was also conditioned that each UN member country should regulate in their respective legal systems the aforementioned commands on the environment. As a whole, environmental standards have risen to a higher level of protection.

Maria da Glória F. P. D. Garcia (2015, p. 39) points out that "the last quarter of the 20th century brought about, in the scientific world, with an unusual sense of permanence, the most diverse studies centered on a unique object that encompasses all: the environment". However, many contemporary management models, based and subsidized by rationality - technical and scientific - economic, still persist in adopting infinite growth as a paradigm. Regardless of the measurement of the environmental variable, as if natural resources were inexhaustible, managers in the economic area maximize production and commercialization goals to maximum economic potential.

Fritjof Capra e Pier Luigi Luisi (2014) note that the characteristic that is most evident in most of today's economic models is the basis for the possibility of perpetual economic growth. As a result, most national economies aim at the continuous accumulation of material goods for progressive growth of their GDP. It should already be agreed that unlimited economic expansion on a planet with finite resources will undoubtedly result in disaster.

Faced with the indifference of economic rationality, Enrique Leff (2015) states that it is essential to build an environmental rationality structured in a new ecological knowledge, which is composed of the integrated interdisciplinarity of knowledge for the elucidation of complex socio-environmental behaviors, because environmental knowledge exceeds and extrapolates the traditional "environmental sciences" to open



itself to the space of ethical values , from the practical and traditional knowledge of common sense.

But, as Délton Winter de Carvalho (2013) explains, the autonomy of environmental law as a legal branch does not compromise the interdisciplinarity and transdisciplinarity that it must possess. Given to the integrative character that environmental law must exercise internally, together with other branches of law and externally, with other communicative dimensions of society, such as science, economics, biology, politics etc. Therefore, economic rationality – socialist (Marxist) or capitalist (market economy) - by defending infinite growth to the detriment of the degradation of nature must be challenged by environmental rationality or know - transdisciplinary - environmental.

Economic rationality excludes the valorization of ecological potentials and environmental services, processes of entropic degradation, cultural values, human rights, quality of life, long-term processes and future consumer preferences. Environmental knowledge questions the built economy as an anti-nature and short-term rationality, without sustainability and equity bases. In this sense, it problematizes both the evolutionary assumptions of the Marxist economy (the advent of socialism by the development of productive forces and the domain of science over nature), as well as the market economy and technology as mechanisms for controlling and solving the scarcity of resources and ecological imbalance. Thus, the limitations of the economy to internalize its externalities (the ecological processes that sustain production; the cultural values that signify give meaning to the development process; equity, distribution, and democracy) show the need to build a new productive paradigm (Leff, 2015, pp. 159-160).

The anthropocentric understanding, which subsidizes economic rationality, comprises the human being above other creatures and at the center of economic rights and interests. In this way, it legitimizes the mastery and the exacerbated exploitation of nature by man for his own benefit.

Explaining the current system of private law, Klauss Bosselmann (2015) also questions the dominant economic model, stating that property rights have largely ignored



environmental protection and sustainability. As mentioned, economic rationality is based on unlimited growth, but does not measure the finitude of natural ins. With this, inadequate exploitation of nature – in private properties – degrades the environment.

As far as human rights are concerned, the "tragedy of the commons" is that most forms of environmental degradation are perfectly legal (Bosselmann, 2015). Considering that this may affect the exhaustion of natural resources and even the entálpica death of the planet earth, there is no other alternative, but the construction of a new paradigm to support it and reorder economic production.

3 ENVIRONMENTAL SUSTAINABILITY AND THE DEGROWTH OF THE ECONOMY

During the environmental crisis, the principle of sustainability emerges, presenting itself as a barrier of containment to the model of economic rationality. As Juarez Freitas (2019, p. 15) points out, "sustainability appears, in this line, as an ethical duty is legal-political to enable well-being in the present, without prejudice to the future well-being, proper and third parties". That is, an obstacle to the infinite growth of nature.

The principle of ecological sustainability emerges in the globalized conjuncture as a limit for the reorientation of the civilizing process of humanity and, by proposing a normative criterion to reorganize and rebuild the economic order, the bases of the productive model must be questioned, because it has as conditioning the survival of the human being and the coherent and lasting development (Leff, 2015).

The questions about economic rationality and the proposal of sustainable development began with the Declaration of the Environment, which took place in Stockholm in 1972, and was evolving and acquiring legitimacy in contemporary society. But only after the United Nations Conference on the Environment - Earth Summit - held in Rio de Janeiro in June 1992 that the concept of defending sustainable development spread widely.



The discourse of sustainable development was being legitimized, made official and widely disseminated on the basis of the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992. But environmental awareness arose in the 1960s with Rachel Carson's *Silent Spring*, and expanded in the 1970s after the United Nations Conference on the Environment, held in Stockholm in 1972. At that moment, the limits of economic rationality and the challenges of environmental degradation to the civilizing project of modernity were pointed out (Leff, 2015, p. 16).

Thus, the model of economic rationality has received strong criticism from bioeconomy scholars and new biocentric models, which present themselves as an alternative to the economic management that was previously predominant. Ecology is configured, in this context, as a divisive limit for the conceptual renewal of the relations between man and nature.

The paradigm that is now receding has dominated our culture for several hundred years, during which it shaped our modern Western society and significantly influenced the rest of the world. This paradigm consists of several entrenched ideas and values, including the vision of the universe as a mechanical system composed of elementary building blocks, the vision of the human body as a machine, the vision of life in society as a competitive struggle for existence, the belief of unlimited material progress, to be obtained through economic and technological growth, and – last but not least – the belief that a society in which women are, everywhere, classified in a lower position than man is a society that follows a basic law of nature. All these assumptions have been decisively challenged by recent events. And, in fact, there is now a radical revision of these assumptions (Capra, 2006, p. 25).

Antonio Enrique Pérez Luño (2012) notes that, currently, ecology represents the global framework for a new understanding between man and his surroundings, fostering the rational use of energy resources and replacing unlimited quantitative growth by a more balanced one that preserves nature and quality of life.



Ecological economists advocate a holistic model of internalization of ecological costs, as well as the adoption of mechanisms for the control and protection of nature. Fritjof Capra (2006), clarifies that this new paradigm can be understood as the deep ecology, the term of ecological philosophy, founded by the Norwegian Arne Naess. It differs from shallow ecology - anthropocentric - which places the human being as the source of all values and above nature, which can be enjoyed as a simple instrument available. Deep ecology - ecocentric or biocentric - does not exclude anything from the natural environment, nor the human being. It conceives the world - ecosystem - as a network of intrinsically interconnected phenomena in interdependent ways.

Already Alberto Acosta (2016) stresses that ecologism is based on science, but also on the feeling of possession - on admiration, identification and love of nature. Currently, criticism of the mechanistic process has been high in society. This is because the limits of life are severely threatened by the anthropocentric view of progress, the essence of which is devastating. Thus, to prevent the collapse of the earth we must preserve its resilience and absorption capacity. For this, ecocentrism, although it does not presuppose an identical approach for all life forms, advocates a rational and equitable treatment for all life species on the planet.

Somehow, biocentrism postulates an egalitarianism among all forms of life. This is not to say that they are the same or that their moral or practical implications are identical. Despite these clarifications, it is not uncommon for many to attack biocentrism – and intrinsic values, arguing that these would imply, in practice, the immobilization of any human activity in the environment. [...]. In the strict sense,



biocentrism recognizes heterogeneities and diversities, including hierarchies, between living species and among ecosystems. It is evident that, as biocentrism requires another ethics in the attribution of values and in the subjects of value, substantial changes are immediately generated in moral imperatives in relation to Nature (Gudynas, 2019, p. 65).

For Enrique Leff, environmental knowledge arises from the externalities of science and enters the fissures of the archetypes of knowledge and from different perspectives eliminates certainties, opens reasoning, projects the environment out and resignify the understanding of the world beyond the truths legitimized by science. This epistemological posture inhibits dogmatization and allows the broad questioning and projection of knowledge (Leff, 2012). Environmental rationality allows the extrapolation of the pre-established social structure and breaks with the prevailing paradigms of economic knowledge.

Environmental rationality establishes a new posture to change the social structure and paradigms of knowledge that have been established so far. This is because it has a broader scope, is based on political ecology, the incorporation of diversified cultural values and knowledge, the reversal of environmental degradation and the generation of sustainable growth, so it goes beyond scientific and technological understandings. The rhetoric between economics and ecology leads to a social dilemma of political struggles for the appropriation of nature and cultural practices of ecologically sustainable production (Leff, 2012). In order to overcome the prevailing concepts, environmental rationality needs to be based on political ecology, comprehensive and transdisciplinary dialectics.

3.1 ENVIRONMENTAL SUSTAINABILITY AND ECONOMIC DEGROWTH IN THE FACE OF SOCIOLOGICAL THEORIES OF ENVIRONMENTAL PROTECTION

The supplanting of paradigms of the conception of economic rationality in favor of the principles of environmental sustainability is not an easy task. First, because there is



great difficulty in crossing the conceptual limits of economic rationality, making it very difficult to internalize negative externalities in the productive process. Moreover, the concept of environment is also not well defined.

The development of environmental assessment criteria and sustainability indicators on the heritage of natural resources, ecological potential and environmental costs of development is an incipient process that has not yet developed sufficient operational management planning instruments (Leff, 2009, p. 172).

However, advocates of the environmental cause persisted in the change of growth *ad aeternum*. With this, the proposal for degrowth and zero growth arose. The term *décroissance*, degrowth in French, was coined in 1972 by André Gorz, forerunner of political ecology. According to Gorz, ecology is part of a radical political transformation. Nicholas Georgescu Roegen, mentor of André Gorz, was the intellectual pioneer of ecological economics and the bioeconomy (D'alisa, Demaria & Kallis, 2016). Roegen established the primordial link between economic growth and the limits of nature.

The process of producing economic rationality is hostage to the paradigm of growing or dying. Economic growth suffers from industrial metabolism and an exponential increase in the consumption of nature, matter and energy, which in addition to challenging the limits of the availability of resources on the planet, also degrades in the production and consumption process, following the principles of the second law of thermodynamics (Leff, 2008). At the same time (1972), scientists from the Massachusetts Institute of Technology and the Club of Rome met to analyze the limits of economic growth and, from the perspective of economic rationality, concluded - Meadows report - that if no action were adopted, at most within a hundred years, it would reach collapse and therefore depletion of natural resources. In view of this, they advocated for the first time zero growth or growth and stable state economy (Oliveira, 2012).



As Serge Latouche (2009) explains, the proposal for degrowth has the main objective of emphasizing the abandonment of the economy of growth without limits. The purpose of which is the search for profit by the holders of capital, but with disastrous consequences for the environment and for humanity in general. With this, society will be left as a simple instrument of productive mechanics and the human being tends to become a subterfuge of the system that seeks to make it useless and expendable.

Nevertheless, the increasing and uncontrolled consumption of natural inputs results in the degradation of nature and generates harmful effects on the environment, the quality of life and the planet's own survival. In addition to air pollution, fires and floods, rising global temperatures and increasing environmental disasters are reasons that are of great concern to contemporary society.

The increasing intensity of these ecological disasters has awakened environmental awareness or ecological awareness everywhere, even with some exaggeration, but productive exaggeration, because it drew the attention of the authorities to the problem of degradation and destruction of the environment, natural and cultural, in a suffocating way (Silva, 2019, p. 35).

The intensity of these accidents has increased substantially, Flavia Piovesan (2019) notes that the Red Cross estimates that there are currently more people displaced in the world due to environmental disasters than by wars. It also states that the scientific community understands that climate change occurs as a result of human action and that environmental damage goes beyond time limits. Therefore, it is essential to make a pact that fosters and becomes aware of sustainable development in order to meet the present needs without compromising the capacity of future generations to meet their own needs.

The greenhouse effect is essential to maintain the average temperature of the planet around 15° C, but the high emission of the feeder gases of this effect potentiates this natural phenomenon. But the exacerbated transfer of thermal energy caused by these gases - carbon, chlorofluorocarbon, methane and nitrous oxide - affects the natural



imbalance and causes an increase in the greenhouse effect and consequently the rise in temperature and undesirable global warming.

According to Enrique Leff (2008), the risks of uncontrolled elevation of the greenhouse effect are based on physics in heat exchange in isolated systems, the second law of thermodynamics. This law establishes that the entropy of an isolated system always increases until it reaches the maximum energy of a thermodynamic system that can be changed by means of chemical reactions. As evidenced in the subsequent excerpt, the increase in the emission volume of the aforementioned gases and the absence of heat exchange - prevented by the ozone layer - will result in an increase in global temperature.

The variation of entropy in an irreversible transformation between two states, A and B, is always greater than in reversible ones (the real processes in nature are always irreversible). If a system is isolated, that is, it has no exchange of energy (or matter) with the surrounding environment, the so-called entropy law arises: 'if an isolated system is transformed, from an initial state A to a final state B, the entropy of the end state is never less than the entropy of the initial state', which means that entropy always increases (Ulgiati, 2016, p. 138).

James Lovelock (2020) understands that global warming is like an out-of-control fire and that the large system called land, or "gaia" in an interglacial period, like what happens now, finds itself in a vicious and reactive cycle and, that's what makes global warming so serious and so imminent. Thus, whether by increasing greenhouse gas emissions, disappearing Arctic ice and changing the structure of the ocean, or destroying tropical forests, the temperature increase occurs and its effects are cumulative. This warning is timely and very relevant, because if the global entropic warming process reaches its maximum potential, the energy tied to the system and its vicinity can cause the planet's enthalpic death.

3.2 DECONSTRUCTION OF UTILITARIAN LOGOCENTRISM AND RECONSTRUCTION OF THE NEW PARADIGM OF ECONOMIC DEVELOPMENT



The solution of the aforementioned environmental problems that plague the ecosystem in a generalized, accelerated, and progressive way requires the change of the conceptual paradigms of economic rationality. There is no way to persist with the model of infinite growth at the expense of the degradation of nature.

It is predicted that in a few decades non-renewable energies will be debased, obtained mainly from natural resources of fossil origin such as gas, coal and especially oil, squeezed in recent decades by the great companies of the West on the sign of the unregulated dynamics of the market. [...]. And this dissipation has also been the main cause of air pollution and global warming. The only alternative to the collapse of the entire planetary economy and the construction of an international public sphere able to impose reductions on emissions and limits to waste and, above all, to sustain the cost of investments necessary for the creation of the necessary facilities for the production of clean energies, such as the sun, wind and tides (Luigi, 2011, p.72).

Overcoming the environmental crisis will only be possible with the acquisition of new knowledge that induces the behavioral change of globalized society and that allows the rupture with the current pattern of economic development.

The environmental crisis results from the lack of knowledge of the law of entropy and the illusion of mechanists of a growth without limits and an infinite production. But the environmental crisis reveals the end of this socioeconomic project. Therefore, the solution to the problem could not be based on the same way as the economic rationality that resulted in the environmental crisis, the ignorance of the law and the indifference of the human being (Leff, 2015). As the environmental crisis is linked to knowledge, it will be necessary to break the prevailing epistemological concepts, deconstruct ideologies and rebuild an environmental knowledge that sustains a development unbound from unlimited growth. Environmental knowledge does not propose a single logic, nor does it seek absolute truth, much less unlimited growth or scientific and technological control of the economy.



Environmental knowledge opens a new understanding of the world from the lack of knowledge and the incompleteness of being. Uncertainty, chaos and risk are at the same time the effect of applying knowledge that intended to undo them and intrinsic condition of being and knowledge (Leff, 2015, p. 420).

The proposal of sustainable development, by not freeing itself from the principles that underpin economic rationality - infinite growth - suffers from the same problems, therefore, it is not ecologically sustainable. As already evidenced, the problems arising from the excessive exploitation of nature still afflict society and one of the most worrying problems is global warming.

In order to protect the environment, end poverty and ensure that people can enjoy peace and prosperity, the UN has proposed the Global Action Plan, Schedule 2030 and has established, through the UNFCCC "United Nations Framework Convention", the primary international intergovernmental forum to negotiate the global response to climate change the 17 SDS "Sustainable Development Goal".

In this sense, the UN 2030 Agenda stands out, with 17 sustainable development goals, with special emphasis on goal 13, concerning the adoption of urgent measures to combat climate change and its impacts; target 16, concerning the promotion of peaceful and inclusive societies for sustainable development; target 17, concerning the strengthening of means of implementing the global partnership for sustainable development (Piovesan, 2019, p. 74).

The SDS 13 provides for a number of urgent measures to combat climate change and its impacts. To this end, it was established: strengthening resilience and the capacity to adapt to climate-related risks and natural disasters in all countries; integrate climate change measures into national policies, strategies and planning; improve education, raise human and institutional awareness and capacity on mitigation, adaptation, impact reduction and early warning of climate change; implement the commitment made by developed countries parties to the UNFCCC to the goal of jointly mobilizing US\$100 billion per year from 2020, from all sources, to meet the needs of developing countries and fully



operationalize the Green Climate Fund through its capitalization as soon as possible (*Objetivos de desenvolvimento sustentável*, n.d.).

Already the SDS 16 aims to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels, and SDS 17 aims to strengthen means of implementation and revitalize the global partnership for sustainable development. But it is important to note that there is no hierarchy between the SDSs, all objectives are extremely relevant, such as SDS 1, poverty eradication, SDS 3, health and well-being, SDS 4, quality education, SDS 6, drinking water and sanitation, SDS 8, decent work and economic growth, SDS 14, life in water and SDS 15, terrestrial life. In order to achieve the goals of the UN 2030 Global Agenda Action Plan, it is necessary to implement the aforementioned objectives in an interactive and progressive manner (*Sustainable Development Goal 13: Ação contra a mudança global do clima*, n.d.).

In compliance with the commands of the aforementioned SDS, several actions in defense of the environment and climate change are carried out. But some are not effective, such as the 1997 Kyoto Protocol, resulting from the UNFCCC Conference of Parties III, which set GHG “greenhouse gases” emission reduction targets for developed nations to meet by the year 2012. But this deadline was extended at the Convention held in Qatar in 2012 by the Doha Amendment, which created the second period of the Protocol (2013-2020) and set the new GHG reduction limit at 18% below the levels recorded in 1990 (Tolentino, 2017). But, as described below, for not having assigned any goals to developing countries, this proposal is questioned.

According to Enrique Leff (2008), the proposal for sustainable development is fallacious. This is because it aims to reduce GHG emissions to 1990 levels, halting the economic expansion of rich countries and maintaining growth in the least developed countries, but China and India emit the aforementioned gases at levels similar to those issued by the United States of America. However, the inefficiency in detaining the rise in



GHG emissions returns as a "boomerang" on society. More recently, the Paris Agreement (2015), carried out with the participation of more than 190 countries, also established on the reduction of GHG emissions.

The Paris Agreement was concluded in December 2015 by the 197 signatory countries to the United Nations Framework Convention on Climate Change (UNFCCC). [...]. Among the main objectives of the protocol are: to limit the increase in global average temperature to well below 2°C above pre-industrial levels and to make efforts to limit the temperature increase to 1.5°C; promote crowdfunding of a \$100 billion-a-year floor for developing countries, considering their needs and priorities; - create a review mechanism every five years of global efforts to curb climate change; strengthen the implementation of the UNFCCC under its principles (Tolentino, 2016).

The Paris Agreement was concluded in 2015, but it took effect only in November 2016. This Pact represents an effort by states to keep the planet's average temperature rise below 2°C. Brazil, on September 21, 2016, ratified this Agreement and set as a target the reduction of GHG emissions by 37% by the year 2025 and by 43% by 2030, both reductions are relative to the emission levels of 2005.

As disclosed by the Ministry of the Environment, Brazil deposited, on September 21, 2016, the ratification of the Paris Agreement. This measure denotes that Brazil inaugurates a new phase of implementation of targets to contain global warming, as it aims to reduce greenhouse gas emissions by 37% by the year 2025, and by 43% by the year 2030 – both decreases are the targeting of emission levels for the year 2005 (Tolentino, 2016). Despite these efforts, the exploration of nature still occurs in an unsurveying way and the ecological imbalance continues to afflict the human being.

The entropic degradation of the planet inexorably follows its course as a product of the inability to establish measures capable of reversing the production of greenhouse gases, which are largely related and derive from deforestation processes. Thus, during the last decade, global warming has increased socio-environmental vulnerability, generating new emerging long-term problems that exceed the forecasts of Agenda 21. In this decade, the meteorological events that



cyclically impact the region intensified. The strong droughts and high temperatures reached in recent years, since the massive forest fires of 1998, as well as the super hurricanes and floods that from 1998 and 1999 have been happening with greater frequency and intensity, increasingly show to be related to the incidence of climate change in these hydro meteorological phenomena, whose human, ecological and economic costs are increasing (Leff, 209,pp. 264-265).

As Enrique Leff (2009) warns, new forms of intervention in ecosystems and their environmental services, not provided for in the Eco-92/RJ agreements, have generated problems such as, unsatisfactory international trade regulations on bioprospecting and biosecurity, undermining national sovereignties, the rights of indigenous peoples and peasant communities.

For this, ecological and environmental economists, such as Ulrich Beck (2016), advocate the creation of a new model of sustainable development, as climate change is creating decisive existential moments. This occurs in an undeliberate, non-oriented and ideology-free manner. The literature on climate change has become a spectacle of obscurity. Unlike that, "metamorphosis" should enable the emergence of critical norms in the globalized risk society.

With the same understanding, Délton Winter de Carvalho (2013) argues that in view of the uncertainties that come from contemporary society, the weakening of the modern State and the consequent displacement of decision-making centers, the environmental problem needs to change its concepts and create a new legal theory, more complex, capable of focusing on and overcoming the ecological risks that expose society and the planet itself.

The need to change the paradigms - socioeconomic - predominant in the ideology of infinite growth is also defended by Fritjof Capra and Pier Luigi Luisi (2014), who also advocate the change of consumerist concepts and waste practices in contemporary society.



Just as it also happens with our other major problems – environmental degradation, food security, species extinction, and so on – they can be traced back to the illusory pursuit of unlimited economic growth on our finite planet. [...]. to solve the crisis, we need to use energy much more efficiently. However, this will not be enough: we also need to address the essential problems of excessive material consumption and waste, which are inherent in the ideology of perpetual growth. [...]. In the short term, however, the most urgent task is to accelerate the transition to a future without fossil fuels in order to survive the threat of global climate collapse (Capra & Luisi, 2014, p. 509).

There is no controversy about environmental problems. Everyone admits that the degradation of nature needs to be avoided and global warming must be contained, but the way to solve such adversities is not consensual. Some are favorable to development – qualitative growth – sustainable environmental growth, while others, who advocate the biocentric - biocentric ethics of the political economy, support the reduction of consumption and the degrowth of the economy.

4 SUSTAINABLE DEVELOPMENT AND DEGROWTH IN THE SEARCH FOR THE SOLUTION OF CONTEMPORARY SOCIOECONOMIC AND ENVIRONMENTAL PROBLEMS

There is no doubt about the right to development. This precept is provided in the Declaration of the Right to Development, adopted by the United Nations in 1986. This Declaration establishing the right to development was adhered by Resolution No. 41/128 of the United Nations General Assembly of 4 December 1986, article 1, §1 establishes that the right to development is an inalienable human right, by virtue of which every person and all peoples are empowered to participate in economic, social, cultural and political development, for him to contribute and enjoy it, in which all human rights and fundamental freedoms can be fully realized. But development must take place in a sustainable way and as seen, this does not occur as it should.



The sustainable economy aims to combat the problems arising from economic rationality and quantitative growth, especially environmental degradation and global warming. To this end, the qualitative economy foreseen in the SDS and the UN 2030 Agenda is defended. With the same perception, Juarez Freitas, adept at the sustainable economy, states that in the economic model of infinite growth nature will reach the limit of exhaustion.

The limitations of the exhausted growth model by growth (unmistakable with the development here) are egregious. The ecosystem approaches at a rapid pace, from the limits of exhaustion. It is likely that at some point, there will be even severe disruption, in which conservative models cannot handle, at the desired speed. In this context, sustainability is not an abstract, elusive or optional observance principle; fully binding and irreconcilable with the repeated non-compliance with the socio-environmental function of goods and services. Thus, it is not reasonable to treat it as a literary resource, remote or deferred realization, invoked only for marketing reasons. Their reasons, duly calibrated, are philosophical and biological. Ethical and constitutional reasons, which combine. Sustainability is translated, as a fundamental duty, with the aim of intergenerational well-being, to produce and share clean and health-conducive development, in every sense, covered there by the primarily ethical components, in combination with social, environmental, economic and legal-political elements (Freitas, 2019, pp. 43-44).

Already Enrique Leff (2008), reports that some ecological economists, such as Herman Daly, have proposed the sustainable economy, which should not grow beyond what allows the maintenance of the planet's natural capital. This would allow the regeneration of natural resources and the absorption of waste, but the economy is unconscious, therefore does not agree with this organic recipe. It is not enough to get out of the wheel of fortune of the economy and reject the alienated commodification of nature, one needs to deconstruct and rebuild the economy. It is not possible to maintain a growing economy that feeds on finite nature and generates greenhouse gases and threatens land and human life. One needs to change cultures, implement processes of reunification of



nature, build an environmental rationality capable of deconstructing economic rationality, re-appropriating nature and promoting the deterritorialization of cultures.

Pursuing, Enrique Leff (2008) questions the sustainable development model, stating that GDP indicator "Gross Domestic Product" as wells economic failure or success, but does not assess the negative externalities of the economy. It also condemns the methods of multiple scales, green accounts, HDI "Human Development Index" etc. For, according to this author, they are ineffective and disable the genetic code of the economy and trigger the recession and destruction of nature. For Juarez Freitas (2019), although they consider GDP as an economic indicator, he does not qualify it as a means to achieve environmental sustainability.

Serious misconceptions encouraged by GDP, which does not support quality of life and interpersonal relationships, are overcome step and step by step. Having, by the way, one of the largest GDP(s) in the world does not represent much, especially if the country leaves to be desired in items such as per capita income, probity in public and private relations, educational robustness (cognitive and volitional), physical security, respect for biodiversity and regulatory reliability of the negotiating environment. Progress (slowly, it is true) towards the net and qualitative evaluation of public policies. This is the convenient course, despite possible cultural resistances to overcome, notable those who cannot see the true priorities, as they allow themselves to be caught in hellish gears leading to the so-called tragedy of the commons (Freitas, 2019, pp. 47-48).

With other understandings, Alberto Acosta and Ulrich Brand consider that the proposal of sustainable development – Eco-keynesian concepts - sees economic growth as a "qualitative" or "selective" need and, moreover, many perspectives of eco-socialism are limited, because they do not confront utilitarianism with the anthropocentrism bases of their traditional propositions. Thus, both authors advocate economic degrowth, which according to them, is a double proposal, which, on the one hand, suggests a broad social change and identifies the "imperative of capitalist economic growth" as a fundamental problem. On the other hand, it seeks to contextualize in a comprehensive way the various



concrete experiences. According to Acosta and Brand (2018, p. 109-110), the term "degrowth" may disappear and be replaced by other concepts, such as "well-living", for example.

In these terms, Enrique Leff (2008) states that in economic sustainability the world is sustained by its limits. Recycling technologies, even with current advances, are not able to convert heat into useful energy, so environmental degradation advances and the consequence is the entropic death of the planet. The only antidote against this is the transition to ecotechnological and negentropic production, which involves renewable natural resources and the reduction of the rate of economic growth. Despite the above disagreements and conceptual differences, the purposes of the proposals, now in comment, are similar because both are of defense of nature.

In addition: sustainable is the development that inserts all living beings, in some way, in the common future, avoiding excessive attachment to a certain material standard of living. That is, considering the satisfaction of the needs of current and future generations was and is relevant, however, says little about the multidimensional character of sustainability. In fact, sustainability, going beyond the *Brundtland* Report, assumes the demands concerning physical and psychic well-being, not meeting material needs and does so without expanding the risks raised, on an industrial scale, by the human being himself. Thus, sustainable development experiences sensitive reconfiguration to become ethically consistent: any development that is shown, in the long run, to deny the dignity of living beings in general, even if it pays immediate dividends, will be regarded as unsustainable. But that's not all yet. It is necessary that the concept be pronouncedly inclusive, politically and socially. In one expression: embody 'environmental justice', in a broad sense (Freitas, 2019, p. 52).

Sustainable development aims at qualitative growth and conscious consumption, while economic degrowth aims at non-growth, consumerist behavioral change, a society with a lower metabolism. However, the environment and the earth planet itself is conceived according to the societal metabolism of culture and regional socioeconomic demands. Alevgül H. Şorman then clarifies that in a limited energy future one will have to work harder, not less, as advocated for degrowth.



Societies metabolize energy and material flows in order to remain operational. This process is called societal metabolism. [...]. The metabolism of human societies is based on the use of exosomatic energy (metabolizable energy over human control, outside the human body), an extended form of endosomatic energy (energy metabolized within the human body). [...]. To give examples, these systems can be: a biological cell, a legal system and/or the capitalist state. They are called autopoietic systems, which means that they are able to reproduce and maintain themselves. [...]. Societal metabolism focuses on the biophysical processes that guarantee the production and consumption of goods and services: what it produces, the purpose for which it is produced and who consumes it. This is then linked to the analysis of value-added production (in relation to production factor investments). [...]. This points to a contradiction with the proposal of degrowth, which calls the reduction of working hours (work-sharing). In a future of scarce energy, we will have to work harder, not less (Sorman, 2016, pp. 78-81).

Nevertheless, the proposal for degrowth is strengthened by approaching the political ecology aspect, as both are critical of sustainable development. According to Susan Paulson, both degrowth and political ecology refute the prevailing technocratic and economic interpretations of the causes of environmental problems. The two proposals question sustainable development and the promotion of mechanization on their behalf. In addition, both make efforts to achieve a more equal distribution of economic and ecological resources and risks (Paulson, 2016). But regardless of global economic trends, some regions have their own characteristics, such as Andean peoples.

The Andean peasant dialogues with Pacha Mama, not as an external element to her, but within her. Finally, Pacha mama's environmental means are not what ecologists would qualify as wild or with low levels of modification; include farmland and grazing. Moreover, in some places it is specifically valued a Pacha Mama thus constructed, understanding it as the "world of corn" (*sara*), while there is a sense of caution with the spaces proper to the "world of brushwood" (*cora*), because they provide us with food and can generate hunger or other shortages. Under this distinction, it is humans in their communities who convert that disorder into spaces of the *sara* proper to the *Pacha Mama* (Gudynas, 2019, p. 144).



According to Alberto Acosta (2016), “well-living” is a lifestyle that, in a way, consists of the counterpoint to development, because it rescues diversities, values the similar and proposes decolonizing ways out in all areas of human life. In addition, this lifestyle (*nhandereko*) supposes a holistic and integrative view of the human being that inhabits the Pacha Mama community. Therefore, it is a way of living that is not based on the ethics of infinite material progress, understood as accumulation of goods and the cause of endless disputes and competitions between individuals which as a rule, result in socio-environmental devastation.

For Enrique Leff (2016), “well-living” is not only a philosophy of life of the Andean peoples, but extends to the Amazonian peoples, which usually becomes a symbol of the principle of life of traditional societies. For, in addition to dependence, respect for the land coexists. With the application of coexistence and sustainability practices, they transform the habitat with the art of cultural management of nature.

Eduardo Gudynas (2019) considers that the values of nature and the consequent recognition of its rights are intrinsically linked to the practices of sustainable development and ecocentrism. Therefore, considerations on the rights of nature imply revisiting the proposal for sustainable development (growth) and analyzing which of its variants are capable of use from a biocentric position.

In this sense, there are already some flexibilities extending the anthropocentric concepts of sustainable development, such as the strategic director ESG "Environmental, Social and Governance" of Corporate Governance, which aims at environmentally sustainable development inside and outside the company.

The ESG strategic driver is a process and not a binary classification, it is not about being ESG or not, there are different companies at different stages of implementation. The coronavirus pandemic has acted as a catalyst for ESG investment participation, companies that do not adapt will be left behind. Given that investor engagement and consumer behavior are driving companies to reinvent themselves, and the ESG driver has



been a particularly effective sign of above-average market return generation in recent years (Ungaretti, 2020).

Of course, no one would want to purchase a product from a company that degrades the environment and exploits its employees. Thus, entrepreneurs who do not need to use the ESG strategic driver in their Corporate Governance tend to lose investors and consumers, consequently, will have reduced profitability.

These facts denote that the suggestion of the interaction between the aforementioned environmental proposals made by Eduardo Gudynas is a plausible alternative to address the socioeconomic and environmental problems of today. Regardless of the environmental, traditional or avant-garde aspect, the defense of nature and consensual. Therefore, dialogue is essential for reconciling understandings and what will benefit will be the environment and society itself.

5 CONCLUSIVE REMARKS

Both environmental law and the right to economic development are guaranteed at the Brazilian international and domestic level, including constitutional status. But normally the concrete application of these rights does not occur as it should. This is because the concepts – economic rationality – that underlie the productive and consumerist process are anthropocentric and predict an unlimited growth of the economy but disregard the finitude of natural resources.

This creates many problems for the environment, for society and for the planet earth, such as environmental degradation, pollution, floods, hurricanes, global warming, among others. Then, many questions and proposals for the improvement of this economic model were presented.



The proposals for sustainable development and economic degrowth, although different, have similar objectives, combat the inadequate exploitation of nature and prevent degradation and undesirable effects on the environment. Sustainable development foresees conscious, sustainable growth and the preservation of nature. Economic degrowth, on the other hand, understands that consumption must be reduced and growth does not necessarily need to reduce, but must stop growing to mitigate or eliminate environmental problems.

Both propositions have their merits and are highly commendable, but both have shortcomings. Sustainable development, despite adopting a broad understanding of anthropocentric concepts, still attaches itself to these ideals and therefore cannot completely detach itself from the remnants of economic rationality. Degrowth makes a commendable defense of the environment with a biocentric focus, but it is overlooked in evaluating the problem of paralyzing growth from a social perspective.

The stagnant economy generates a drop in purchasing power, unemployment and consequently the rise in poverty and hunger rates. As mentioned elsewhere, in the future, in an economy with low energy availability, human work should increase and not reduce, as advocated by degrowth.

Some cultures assimilate well degrowth, as with the Andean and Amazonian peoples who follow the philosophy of “Pacha Mama” and the “well-living”. But this is a regional feature and not a global one. Such regional peculiarities are specific, the aforementioned philosophy, which would hardly be assimilated in a cosmopolitan city such as São Paulo, London or New York, are very different customs and needs.

With this, the alternative of dialogue between these two proposals, as Eduardo Gudynas suggested, presents itself as the most effective means to overcome the issue. Revisiting the sustainable development proposal from a biocentric perspective at worst would already be a gain, an approximation, an evolution in defense of nature.



As described, there is no doubt as to the purpose and relevance of the proposal for degrowth, but with the reservation of the specific cases, this proposal is not yet applicable globally. This is because its implementation would generate serious socioeconomic imbalance, focus on unemployment, poverty and increase the hunger of the low-reliant populations of poor countries, who are heavily dependent on economic growth for their livelihoods.

Sustainable development has also not achieved its objective, given the permanence of the socioeconomic practices of unlimited growth, environmental degradation and global warming.

Thus, both proposals, as they are presented, are unable to solve the problem analyzed in this research. In view of this, the proposal of sustainable environmental development, adapted and improved - as suggested, elsewhere, by Eduardo Gudynas - based on the use of a renewable energy matrix, on conscious consumption and environmental sustainability is currently a possible option to be applied to achieve the socio-environmental balance and, consequently, to solve the aforementioned problems faced by contemporary global society.

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