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THE PARIS AGREEMENT IN THE CONTEXT OF THE ECONOMIC THEORY OF DEGROWTH - MAPPING AND ANALYSIS OF IDIOSYNCRASIES

O ACORDO DE PARIS NO CONTEXTO DA TEORIA ECONÔMICA DO DECRESCIMENTO - MAPEAMENTO E ANÁLISE DE IDIOSSINCRASIAS

EL ACUERDO DE PARÍS EM EL CONTEXTO DE LA TEORÍA ECONÓMICA DEL DECRECIMIENTO - MAPEO Y ANÁLISIS DE IDIOSINCRASÍAS

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ABSTRACT: The present work aims to map and analyze the idiosyncrasies between the economic theory of degrowth and the central precepts of the Paris Agreement. Bibliographical references are presented around environmental and economic reflections regarding the crisis that humanity has reached in the face of the industrialization process. The theme was divided into three parts: atmosphere and climate change, conventions on climate change, and degrowth and development, which served to generate a theoretical framework for the conclusion of the research.

Keywords: Degrowth. Development. Paris Agreement. Idiosyncrasies. Climate Changes.

RESUMO: O presente trabalho objetiva mapear e analisar as idiossincrasias entre a teoria econômica do decrescimento e os preceitos centrais do Acordo de Paris. São apresentados referenciais bibliográficos em torno das reflexões ambientais e econômicas a respeito da crise que a humanidade alcançou diante do processo de industrialização. A exposição da temática foi dividida em três partes: atmosfera e mudanças climáticas, convenções sobre mudanças no clima e decrescimento e desenvolvimento, que serviram para gerar um arcabouço teórico sedimentado para a conclusão da pesquisa.

Palavras-chave: Decrescimento. Desenvolvimento. Acordo de Paris. Idiossincrasias. Mudanças Climáticas.

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RESUMEN: El presente trabajo tiene como objetivo mapear y analizar las idiosincrasias entre la teoría económica del decrecimiento y los preceptos centrales del Acuerdo de París. Se presentan referencias bibliográficas sobre las reflexiones ambientales y económicas sobre la crisis a la que ha llegado a la humanidad frente al proceso de industrialización. La exposición del tema se dividió en tres partes: atmósfera y cambio climático, convenciones sobre cambio climático y decrecimiento y desarrollo, que sirvieron para generar un marco teórico sólido para la conclusión de la investigación.

Palabras clave: Decrecimiento. Desarrollo. Acuerdo de París. Idiosincrasias. Cambios climáticos.

INTRODUCTION

Human beings, especially following the Industrial Revolution, have been gradually altering the geographical space and and becoming the main modifier of natural space. Among the many environmental problems that accelerated following that mark in the history of humanity, we highlight climate change. Billions of tonnes of gases such as carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs) and water vapor are being deployed in the atmosphere. The majority of the scientific community corroborates the understanding that the anthropic emission of greenhouse gases (GHG) is the main cause for the onset of global warming, the most prominent phenomenon associated with climate change.

The Industrial Revolution also caused an acceleration in economic growth. From the point of view of production processes, fast and massive production became necessary, which prompted the use of machinery as productive tools. The necessary production capability was found in new and denser energy sources such as carbon and oil, which were adopted in large scale.

The resulting sum of economic growth and environmental problems, particularly climate change — the object of study of this paper —, motivated research in economic degrowth as an alternative for preserving the environment.

The following question guided the elaboration of this research: Does the economic theory of "degrowth" adhere to the central precepts of the Paris Accord?

Exposition of the theme of this article has been divided in four parts: a) atmosphere and climate change, to introduce discussion on climate dynamics and the anthropic influence on the system; b) climate change conventions that result from global worries on GHG emissions from human activity and the subsequent change in global climate; c) degrowth and development, showing the main thoughts of degrowth theory scholars.

In this research, a systematic study of works dealing with different aspects of the concept of degrowth was carried out. A critical comparison between them was made in order to clarify their positive aspects and relations. Moreover, this work reflected on official Intergovernmental Panel on Climate Change (IPCC) data on greenhouse gas emission on Earth's atmosphere and, from this starting point, elaborated an interdisciplinary approach which allowed an understanding of the perspectives of degrowth theory.

THEME EXPOSITION

Atmosphere and Climate Change

The atmosphere and Earth's climates result from external and internal forces acting on the planet. We must first consider solar energy, the main responsible for Earth's climate system. The amount of solar energy is uneven on the planet due to the inclination of Earth's rotation axis and its orbit, which create the seasons. Therefore, considering the absence of obliquity (that is, the non-existence of a deviation from perpendicularity) of earth's rotation axis, air temperature is higher on the tropics and decreases toward the poles in both hemispheres. Likewise, the climactic system redistributes the energy surplus to the poles. Radiation incident on the surface depends on latitude. A larger amount of radiation hits a unit of area at the Equator than at the poles. We must also consider the uneven absorption and reflection mechanisms that aggravate the radiation distribution (Kandel 1990). The combination of insulation and energy redistribution determines the geographic patterns of temperature, precipitation, ice and vegetation.

Geothermal energy, produced in Earth's interior, completes the group of primary sources that originate climate and form our atmosphere. Alteration in these sources affects climate. Volcanic activity and variation in the number of sunspots are well-known examples (CONTI, 2000). In 1924, work performed by Serbian geophysicist Milutin Milankovitch (1879-1958) showed that Earth has gone through a series of climate variations, alternating glacial and interglacial periods, in approximately 100,000-year cycles, determined by modifications in Earth's orbit. These cycles condition the amount of energy received by the planet. At the same time, they influence the temperature and composition of the atmosphere, mainly with respect to CO_2 (BURSZTYN; BURSZTYN, 2012).

From circa one million years ago, CO_2 concentration has oscillated between 180 parts per million (ppm) during glacial periods and 280 ppm in warmer episodes. Approximately 12,000 years ago, Earth has been going through warm interglacial periods. In 1850, atmospheric CO2 concentration was 270 ppm, very close to the maximum level. Had this cycle not been disturbed, Earth would have entered more rapidly in a new glacial era, for a period of no less than 18,000 years (DURAND, 2007). However, the Milankovitch cycles reveal that the cooling rate that leads to glacial periods is very slow, almost imperceptible to human time scales. Some thousands of years are necessary to reduce Earth's average temperature by 1°C (RODRIGUES FILHO; SANTOS, 2011).

However, human beings, starting from the Industrial Revolution — that is, the last quarter of the 18th century —, have been gradually altering the geographic space and becoming the main modifier of natural space. Therefore, humanity is also responsible for climate change.

The majority of the scientific community corroborates the understanding that anthropic emission of greenhouse gases (GHG) is the main cause for the intensification of global warming, the most prominent phenomenon associable with climate change.

In fact, the IPCC in its recent Fifth Assessment Report — AR 5 (IPCC 2014), emphasizes that human influence on climate change is clear and growing, with impacts observed in every continent and ocean.

Many of the observed changes since the 1950s are unprecedented in thousands of years. IPCC (2014) points out with 95% accuracy that humans are the main cause of present day global warming. Besides, the AR 5 indicates that the more human activities impact climate, the larger in severity the risk of irreversible impacts on people and ecosystems become and the more expressive long term changes become in all climate components.

Conventions on Climate Change

In the 1980s, scientific evidence relating GHG emission from human activity with global climate change started raising public awareness. They also inspired a series of international conventions appealing to the urgency of a global treatise o face the problem. In 1990, the United Nations General Assembly responded to these appeals by establishing the Intergovernmental Negotiation Committee for the Framework Convention on Climate Change.

The Intergovernmental Negotiation Committee for the Framework Convention on Climate Change penned the Convention manifesto and adopted it in 1992 at the United Nations headquarters in New York. The Convention was opened for signatures in July 1992 at the Earth Summit in Rio de Janeiro. It was signed during the meeting by statesmen and other authorities from 154 nations and entered into force in 1994.

The Conference of the Parties (COP) — the supreme part of the Convention — gathered for the first time in early 1995 in Berlin. Two years later, in Kyoto, a consensus decision was reached to adopt a Protocol under which industrialized countries would reduce their combined greenhouse gas emissions by at least 5% with respect to 1990 levels. Main polluting countries such as the United States and China did not subscribe to those measures. The measure is inefficient, since the scientific community advises for urgent reduction by at least 60% of those damaging gases (BOFF, 2015).

The Paris Agreement, established in 2015 through the 21st Conference of the Parties (COP21), has the goal of strengthening global response to the threat of climate change and to reinforce countries' capabilities to deal with the impacts resulting from these changes. The Agreement was approved by 195 countries with the goal of reducing GHG emissions in the context of sustainable development. In order to reach the final goal of the Agreement, governments were involved in building their own commitments through the so-called Nationally Determined Contributions (NDC), as explained by Rose et al (2017):

> In the near-term, the Paris Agreement consists of emissions reduction pledges--nationally determined contributions or NDCs--by nearly all the world's countries for the 2030 timeframe. Participation in the agreement is broad, with countries offering pledges representing almost all of the world's current anthropogenic greenhouse gas (GHG) emissions. However, the pledges of

> many lower-income countries are conditional on international financial and technical assistance. Countries with conditional pledges or no pledges account for roughly 30% of global emissions but over 50% of the current global population, and their share of both global emissions and population is likely to increase in the future (ROSE et al. 2017, p.256)

The Agreement consists of 29 articles and aims to keep the global average temperature increase well below 2°C with respect to pre-industrial levels and to commit efforts to limit this increase in temperature to 1.5°C with respect to pre- industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change and would increase the capacity to adapt to negative climate change impacts as well as promote resilience to climate change and the development of low greenhouse gas emission in a way that does not hinder food production.

Degrowth and Development

Since the 1990s, the discourse of sustainable development represented the hegemonic, and supposedly consensual, language to consider the relationship between environment and society (LÉNA, 2012).

Nascimento (2013), in this sense, succinctly distinguishes economic growth, sustainable growth and degrowth (Table 1).

Table 1. Currents of development and degrowth.

Economic Development	Puts its hopes in technological advancement and in the market sphere
Sustainable Development	Believes in state action, privileging the government sphere.
Degrowth	Moves towards mobilization of social actors, believing in cultural and ethical change.

Source: Adapted from Nascimento (2013).

Moreover, the term "development", according to Rist (2012), was a trick by the system to extend the hegemony of capitalism on the entire planet, transforming nature and social relations in merchandise.

To Löwy (2012), the fundamental cause of environmental degradation is found in the process of accumulation of capital and its necessity of limitless expansion, that is, capitalism demands endless growth in productivity (HOBSBAWN, 1995). On that note, Alier (2012) claims that all economic growth implies environmental conflict, and this means that economic growth is unsustainable. In other words, growth is ecologically impossible (LATOUCHE, 2012).

Current societies are moved by principles that must be questioned (CAVALCANTI, 2012). Consumerism is the locomotive that brings a series of symbolic meanings (e.g., pleasure, success and happiness), in general superfluous, and which promote the acquisition

of wealth beyond what is necessary. It is an important observation by Kempf (2012) that social classes copy the consumerist behavior of the upper class. The aforementioned author claims that in the political sphere societies block environmental policies, such that the seating reformist ecology may end up paralyzed or subject to the interests of the powerful influencers of government. This is the reason for the inefficacy of measures taken in the national scheme and the failure of international conferences.

Chesnais (2012) believes that there must be a radical questioning of the principles of the growth society and that it is necessary to rebuild society around Other values.

Grass (2012) criticizes vehemently the vision of progress as a succession of inescapable steps that all must overcome, following the model of old industrialized countries. To him, southern countries imported the imaginary of northern countries such as, for example, gigantism, pillaging of resources, increasing flow of merchandise.

According to Besson-Gerard (2012), we live a systemic, global and generalized crisis and we must depart to an anthropological conversion, that is, following towards voluntary poverty instead of enduring imposed misery. He adds that the planet will not support the mad demands of our predatory species for much longer.

However, there can be development without growth (CAVALCANTI, 2012). In the words of Jackson (2013*)*: *"Besides provision and shelter, prosperity consists in our capacity to participate in society life, in our feeling of shared meaning and purpose and in our capacity to dream"* (JACKSON, 2013, p.128). Welfare is connected to having access to everything human beings should have by right. Healthy food, decent habitation, good quality services such as healthcare, security and education, satisfying jobs etc. We believe that real prosperity transcends material concerns, for it resides in loving our neighbor.

To Veiga & Issberner (2012), there must be a successor of GDP as an indicator of development; they recommend the creation of indicators that incorporate quality of life, inequality, carbon footprint, water footprint and biodiversity.

Garcia (2012) claims that the welfare movement is a heterogeneous one, in which one may find values of State and market autonomy, of resistance against development. This movement values community, cultural identity, locations and territories with interests in preserving the local environment.

Tim Jackson showed us brilliantly that a few countries have conquered remarkable levels of flourishing with only a fraction of the available income of richer countries. The author mentioned countries such as Cuba, Chile and Kazakhstan as examples: child mortality is as low in Cuba as in the United States; life expectancy in Chile is longer than in Denmark; Kazakhstan displays higher education participation rates than Japan (JACKSON, 2013).

CONCLUSION

We conclude that the economic theory of "degrowth" is not consistent with the central precepts of the Paris Agreement. For that purpose, we list a few reasons: a) the term "degrowth" is not present in any of the 29 articles of the Paris Agreement; b) the

agreement defends economic growth (article 10), which is totally incompatible with the central ideas of degrowth theory; c) sustainable development, criticized by degrowth scholars, is one of the goals of the agreement; d) degrowth symbolizes the necessity of integral rupture, in which it is not possible to accept concepts such as "green growth" or "sustainable development".

Finally, not least importantly, we must always recall the words of economist and mathematician Nicholas Georgescu-Roegen, which echoed in the work of Serge Latouche: "infinite growth is incompatible with a finite world" (LATOUCHE, 2009, 14).

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