

Artigo original

Hegemonia – Revista Eletrônica do Programa de Mestrado em Direitos Humanos, Cidadania e Violência/Ciência Política do Centro Universitário Unieuro

ISSN: 1809-1261

UNIEURO, Brasília, número 28, Julho a Dezembro de 2019, pp. 80-100.

Recebido em: 25/9/2018

Avaliado em: 3/10/2018

Aprovado em: 8/11/2018

## THE ISSUE OF SUSTAINABLE DEVELOPMENT: A PRELIMINAR AND QUALITATIVE APPROACH

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**RESUMO:** O presente artigo procura analisar os eventos globais sobre desenvolvimento sustentável patrocinados pela ONU e articular esses movimentos com problemas da governança global. Nesse sentido, tenta mostrar que os avanços e/ou retrocessos dividem o mundo entre blocos de países com graus de desenvolvimento diferentes. Assim, procurou-se vincular as trajetórias dos eventos e seus acordos correlatos com o conceito de ambiente institucional. O artigo destaca a necessidade de avanços com a questão ambiental, dado o nível de degradação dos recursos naturais. Há o questionamento sobre o que é desenvolvimento. O tipo de pesquisa é descritiva e histórica. O ambiente institucional é analisado dentro de uma perspectiva conceitual contraditória, onde o formal e o informal caminham em acelerações diferentes. Os avanços institucionais efetivos são pífios, devido à incapacidade de legitimação de um novo paradigma e à incapacidade de mudança comportamental, tanto por parte da população em geral, como de gestores públicos de grandes nações industrializadas. Isso quer dizer que somente uma mudança comportamental pode permitir maiores avanços nessa questão.

**Palavras-chave:** Ambiente institucional, Recursos naturais, Desenvolvimento Sustentável.

**ABSTRACT:** This article seeks to analyze the global events on sustainable development sponsored by the UN and to articulate these movements with problems of global governance. In this sense, it tries to show that advances and/or setbacks divide the world between blocks of countries with different degrees of development. Thus, we tried to link the trajectories of events and their related agreements with the concept of institutional environment. The article highlights the need for progress with the environmental issue, given the level of degradation of natural resources. There is questioning about what development is. The type of research is descriptive and historical. The institutional environment is analyzed within a contradictory conceptual perspective, where the formal and the informal move with different accelerations. Effective institutional advances are weak, due to the inability to legitimize a new paradigm and the inability of behavioral change, both by the population and by public managers of large industrialized nations. This means that only a behavioral change can lead to further progress on this issue.

**Keywords:** Institutional environment, Natural resources, Sustainable development.

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JEL: Q58; K20; Q54.

## 1 INTRODUCTION

The disorderly growth of the population and the misuse of natural resources have caused a diversity of environmental, social and economic impacts over the years, which boosted in the 1970s, for two great reasons. One of them was the effect of degradation on the diffusion of the paradigm of the Green Revolution. In addition, the oil crisis effectively registered in the years 1973 and 1979. There was an urgent need for change regarding the dependence of fossil fuels. Thus, the search for alternatives accelerated.

Lago (2006) also points to mercury poisoning of fishermen and their families in Japan between the 50's and 70's decades of the last century, and the sinking of an oil tanker in 1967, on the French and English coasts. The feelings of contestation in 1968, and the discomfort of the middle class with the types of pollution have disturbed urban centers in developed countries.

Thus, in 1972, the Stockholm Conference took place as the first major international meeting of Heads of State to discuss the environmental problem. This major event, sponsored by the UN, is also known as the United Nations Conference on the Human Environment (UNCED).

The first oil crisis occurred in 1973. For its relevance, it is referred by Tigre (2006) as one of the three elements that will give rise to the emergence of post-Fordism. Its 26 principles show that environmental problems have changed from being considered single-minded findings of random radical ecologists, to become a problem that can harm everyone, not respecting borders or countries.

According to Lima (1999), as from the Stockholm Conference, centralized mechanisms for disciplining and controlling environmental problems were created within the United Nations, which, on the one hand, presented a "correct reading" of the problem and, on the other hand, "suggested" the direction of their approach and solution.

At the time, there was a process of accelerated demographic growth. In practice, this meant an increase in anthropogenic pressure, in a context of poverty, which is also a consequence of the market failures of capitalism. This perception is most evident in the poorer parts of the globe, which includes Africa and significant parts of Latin America, identified as Southern countries in the debates on climate change. In this scenario, there is the concern to make a fair division of who

will be responsible for the world pollution and emission of CO<sup>2</sup>. Generally, in this division, the most polluting countries are the countries in the North, which are the richest. An exception to this rule would be China. The economist Piketty (2017), answering the question of where the world's 1% most polluter is, has developed a partnership and concluded that 57% of these live in the United States, 16% in Europe, and just over 5% in China.

The present paper relies on the hypothesis that the acceleration of results requires, as a necessary condition, the change in the institutional environment. There is a mismatch between the advancement of the legal apparatus, which is the formal institutional environment, against the lag of an individualistic society, which fails to incorporate the relevance of the environmental problem into its individual actions. The global environmental agreements and the entire coordination effort undertaken for the accession of countries have not been successful at the same speed required by the urgency of climate change. The paper tries to analyze this question by historical and literature review.

The study also aims to show that effective institutional advances are weak, due to the inability to legitimize a new paradigm and the inability of behavioral change, both by the population in general, and by the public managers of large industrialized nations. This means that only a behavioral change can lead to further progress on this issue.

## 2 LITERATURE REVIEW

What helps to understand such a situation is certainly present in Veiga's analysis (2013), which reveals the contention between groups of countries when searching for a common agenda. The breakdown by country groups may be through degrees of development and geographical position on the globe (North and South), which should be offset or mitigated through a series of multilateral meetings sponsored by the United Nations (UN). These meetings show not so positive aspects. The main one is the lack of convergence in the desired rhythm over time of targets that involve the commitment of all countries. However, Veiga (2013) rightly points out that there is a lack of governance and coordination. There is the institutional will to achieve the success of the negotiations, by organs such as the United Nations, but there is a multiplicity of objectives. Therefore, the strategy may require adjustments.

Kotler (2015) shows the complexity of the topic when stating that it is difficult to achieve a common agenda, but does not go into the merits of global conferences. The lack of political

goodwill of some rulers can be exemplified by the recent attitude of US President Donald Trump, who pulled the country out of the Paris Agreement, representing a setback on the agenda.

## 2.1 Formal and informal environments

Saes (2000) emphasizes that the institutional environment should be understood as the set of formal and informal rules, drawing heavily on North's (1990) contribution. In this sense, formal rules should be understood as laws, norms and constitution, while informal rules such as the culture and tradition of a people. Following Lages et. al. (2017), it can be understood that:  $\theta(t)$  represents the institutional environment as a function of time. Thus  $\theta(t) = \theta_I(t) + \theta_F(t)$ . This means that, at any given time  $t$ , the institutional environment is the sum of the informal institutional environment ( $\theta_I(t)$ ) + formal institutional environment ( $\theta_F(t)$ ). It should be added that  $d\theta_I/dt > 0$  e  $d\theta_F/dt > 0$ . This means that informal and formal institutional environments have positive derivatives with respect to time ( $t$ ), meaning a positive development or continuous improvement. This dynamics changes slightly if the second derivative is placed, as will be seen below that  $d^2\theta_F/dt^2 > d^2\theta_I/dt^2$ . This means that formal rules have a faster change (acceleration) than changing cultural attitudes and traditions. In other words, although the institutional environment is the only concept, the two sides of it have different behaviors. Thus, the formal institutional environment changes at a faster pace than the informal institutional environment. The simple model above can be identified as "institutional time".

## 2.2 Sustainable development

The ideals of progress and development have been the driving force of nations since the dawn of the Industrial Revolution, always associated with the ideal of economic growth. Development was synonymous with economic growth based on the model of industrialization and had quantitative vision intertwined with qualitative.

Sustainable development emerged as an attempt to distance itself from the concepts of economic development and economic growth. Such concepts used for decades did not consider, especially in the second case, the emergence of environmental problems. Thus, in fact, one can understand that sustainable development also aims at a balance between economic development and the environment. Many authors (PORTER; VAN DER LINDER, 2009) are currently

concerned with trying to reconcile such points, which for a long time have been considered impractical within common sense.

According to Barbosa (2008), the definition of sustainable development originated from the United Nations studies on climate change in the early 1970s, in the face of the environmental and social crisis that had plagued the world since the second half of the 20<sup>th</sup> century.

The concept of sustainable development seeks to relate the need for economic development of society with social development and respect for the environment. However, this institutional change cannot reach farmers from the Brazilian countryside with the same intensity. Even inhabitants of regions that are pressured by advertising may not respond satisfactorily. In the scope of many cities, inefficiency in the treatment of rivers and their springs, their tributaries, and riparian forests, and the lack of water use in irrigation, is still a reality. It is questioned how this has been conducted in terms of global governance, since there is no respect to the borders of countries, especially the consequences and environmental impacts generated.

The Stockholm Conference had the merit of leaving the environmental issue restricted to environmentalists, becoming part of economic and social concerns, as highlighted by Lake (2006). As a result, there was the creation of UNEP (United Nations Environment Program).

From this scenario, some authors appear tracing the first paths towards a conciliatory line between environment and development. One of the pioneers in this case was Ignacy Sachs, considered to be the father of the idea of eco-development. However, for most academics, the meaning of eco-development becomes less important than the very concept of sustainable development, perhaps because of its broader scope. It should be remembered that in the early 1990s the Human Development Index (HDI) emerged, initially demonstrated by the United Nations Development Programme (UNDP) in its human development report. This indicator is not directly related to the notion of sustainable development, but points out the need for the issue of economic development to be dealt more broadly. In this sense, the HDI presents a limitation, as it does not use indicators that deal with income distribution, such as the Gini Index, or components with a direct environmental root.

The institutional concern is then to conceive a type of development that must meet the needs of the present without compromising the ability to future generations meet their own needs, according to the Brundtland Report<sup>6</sup>. Such a report is extremely important for the dissemination of the concept of sustainable development, and considers the need for a three-dimensional balance:

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<sup>6</sup>BRUNDTLAND, GroHalem. In: CMMAD. **Nosso Futuro comum**. Rio de Janeiro: Fundação Getúlio Vargas. 1991. p .XI.

environmental, social and economic. It was formalized two years before RIO 92 and prepared by the Commission on Environment and Development, chaired at that time by Gro Brundtland, Prime Minister of Norway (LAKE, 2006).

One of the characteristics of the Brundtland report, which even made it well accepted by the international community, is that it does not explicitly criticize industrial society. On the contrary, it stimulates economic growth and overcoming poverty through development, even in rich countries.

However, this perspective changes in the more recent period, as rich countries feel the effects of their indifference to the emergence and consequence of climate change.

Barbosa (2008) further states that:

*Generalized poverty is no longer inevitable and that the development of a city should focus on meeting the basic needs of all and offering opportunities to improve the quality of life for the population.*

The term "Sustainable Development", despite being widely used by both common sense and scientists, encompasses an inconsistent meaning, according to Sachs (2007):

*After the 1992 World Conference, the adjective "sustainable" has become imperative in national and international political rhetoric, both in the South and in the North. Semantic confusion has arisen from the vague use of this word, to which different people attribute different meanings.<sup>7</sup>*

This imprecision arises from the difficulty of defining the words that compose it, because in relation to the noun "development", several consequent discussions appear. For example, if the word "development" suggests or not the idea of growth. As for the adjective "sustainable", which carries the meaning of balance, but also the idea of continuity, there is probable a polysemy.

Although there is still one who confuses growth with development, it is important to differentiate such concepts. The former is often associated with the very concept of GDP (Gross Domestic Product), or GDP per capita. This shows that there is no concern for the environment, only the measurement of the final goods and services produced in a given economy. It also does not consider the issue of income distribution, which differentiates it from the concept of economic development. The last is concerned with the quality of life of the population and is closer to the

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<sup>7</sup>SACHS, Ignacy. Rumo à Ecosocioeconomia: teoria e prática do desenvolvimento. 1. ed. São Paulo: Cortez Editora, 2007, p. 285

concepts of Gini index and HDI. However, these two indicators (cf OLIVEIRA et al., 2010) do not yet capture the problem of anthropogenic pressure. Thus, an embryonic idea, which has been gaining momentum, is the green GDP, which combines the concept of conventional GDP with the procedure of considering also the depletion of natural resources in this process. The Gini index is not part of the indicator, but GDP per capita is. The HDI does not consider the distribution of income in its composition of three indicators: life expectancy, education, and per capita income.

Sachs (1986) formulated well some of the basic principles of this new way of development, which are highlighted below:

1. The satisfaction of basic needs;
2. Solidarity with future generations;
3. The participation of the population involved;
4. The preservation of natural resources and the environment in general;
5. The elaboration of a social system guaranteeing employment, social security, and respect for other cultures;
7. Education programs.

It is worth mentioning that Sachs was present with Celso Furtado and Manuel Correia de Andrade in 1974, announcing ecodevelopment at a meeting of the SBPC (Brazilian Society for the Advancement of Science), held in Recife.

According to Socher (2008), these points referred mainly to regions that were underdeveloped. The author brings a critique of industrial society from the debates surrounding ecodevelopment, a term coined by Ignacy Sachs. Thus, part of the origin of the concept of sustainable development was established. In his analysis of Ignacy Sachs's "Paths to Sustainable Development" (2000), the importance he attaches to the conservation of nature is perceptible. Castro (1996) believes that "this new paradigm known as sustainable development arises through an effort to reconceptualize the concept of development, shaken by the environmental and social crisis." To achieve development, it is necessary that these basic principles are considered and that social actions are reconciled to ensure sustainable growth.

The core of Sustainable Development seems to be incorporated in the Brazilian National Law 6.938/81 - National Environmental Policy, which states in its art. 2:

*"The National Environmental Policy aims to preserve, improve and recover the environmental quality conducive to life, aiming to ensure, in the country, the conditions for socioeconomic development, the interests of national security and the protection of the dignity of human life"<sup>8</sup>*

According to Carrera and Séguin (2001), the principles of sustainable development are:

- (i) to change the quality of development,
- (ii) to meet the essential needs of employment, food, energy, water and sanitation,
- (iii) to conserve and improve the resource base, including the environment and the economy in the decision-making process,
- (iv) to maintain a sustainable population level,
- (v) to resume growth,
- (vi) to reorient technology,
- (vii) to manage risk.

To be something specifically sustainable, one must merge the ecologically correct with the economically viable, the socially just, and the culturally accepted. These authors could include in this list the need to ensure biodiversity in terms of fauna and flora, including water resources. Sachs had more specific concerns in this regard by systematizing his foundations in this new paradigm.

On the other hand, the differences between the advances of globalization and their differences with sustainable development became increasingly evident. Progress does not lead to the desired development process. A period in which, according to Lago (2006), globalization is more associated with savage capitalism than with a view to sustainable development prevailed. According to the interpretation proposed in this paper, market failures are characteristic of capitalism, as Kotler (2015) warns, and these failures must be corrected by state intervention with policies relevant to each case. However, there is still a type of development more linked to economic growth than to sustainable development.

Flores (2012), in addition to the observations, highlights the lack of definition about the use of certain indicators in serious environmental problems and climate change.

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<sup>8</sup>“A Política Nacional do Meio Ambiente tem por objetivo a preservação, melhoria e recuperação da qualidade ambiental propícia à vida, visando assegurar, no País, condições ao desenvolvimento socioeconômico, aos interesses da segurança nacional e à proteção da dignidade da vida humana”



The relevance of the problem is most evident because of the consequences that have begun to take shape over time, such as the greenhouse effect associated with global warming, in addition to rising sea levels. Rather, the subject was treated as a non-scientific discussion. Segments from the private sector believed that concern for the environment was a great exaggeration of radical environmentalists. This exaggeration then becomes the concern of many scientists in different spheres of knowledge. There are countless studies in this sense, and some have gained popularity and respectability, leading up to a Nobel Prize winning.

The Intergovernmental Panel on Climate Change, better known by the acronym IPCC, is linked to the UN because of the respectability of the work of this entity, which won the Nobel Peace Prize in 2007. Another winner of the same award was Al Gore, President of the United States, who has been dedicated to this process of ecological awareness.

As Moreira et al. (2008) states, the importance of the Kyoto Protocol is mainly associated with the possibilities developed from its proposals. Among them, the so-called Clean Development Mechanism (CDM) deserves special mention. The concern behind this mechanism is the greater goal of reducing greenhouse gas (GHG) emissions. Under the rules, developed countries, OECD (Organisation for Economic Co-operation and Development (OECD) members, and ex-communist industrialized transition countries can implement projects in developing countries to reduce GHGs in exchange for certified emission reductions (CERs). These countries, however, did not have a reduction commitment at the time, but had to inventory their carbon emissions.

The aggregate reduction of greenhouse gases could be achieved through the adoption of more efficient technologies, by replacing fossil fuels for renewable energies, afforestation and reforestation, among other measures. Such a mechanism generally involves a bilateral project within these different categories.

Moreira et al (2008) recall that the virtues of such initiatives are great. It allows developing countries to take advantage of technological leaps when incorporating more efficient technologies. They allow countries in developed blocs to meet targets by investing in poorer countries, and in a way to spread sustainable development as a rule.

In a way, this transfers a responsibility between countries from the North to countries of the South, useful in the short term, but far from sufficient in the medium and long-term.

According to Lago (2006), between 1992 and 2002, there was a relevant technological advance, mainly in the communications segment, as well as a substantial increase in physical commercial transactions, as well as in the financial segment. Once again, technology has broken cultural patterns of behavior, but the urgencies of legitimizing a new paradigm become more

evident. It was also created a formal institutional environment ( $\theta_F$ ), represented by the formation of a legal apparatus in each of the countries involved. In this sense, the gradual entry into an economic model increasingly favorable to capitalism in China was also vital. According to this same author, there were conjugated factors of attraction for the western lifestyle based also in the democratic system, although this last point does not appear to have had any real progress.

### 3 METHODOLOGY

The present paper has a purely qualitative character, making use historical and documentary research, preserving a descriptive nature. The formalization of the debate in order to facilitate understanding of the topic is crucial.

The nature of the concern here is to show the difficulties of advancing the agenda and try to propose some paths for research in this field, given the need for urgency in results. For this, it was carried out a critical analysis of the small advances obtained by the events sponsored by the UN. In addition, it also showed the difficulties and questions the way of conducting them with the relevant bodies.

### 4 CONFERNCES AND THEIR RESULTS

#### 4.1 RIO 92

The United Nations Conference on Environment and Development (UNCED), a two-day conference known as Rio 92 or ECO-92, was held in Rio de Janeiro, in June of 1992. According to Collor de Mello (2017), president of Brazil at the time, 179 Heads of Government and State participated in the event. The proposal for its realization had its approval through a resolution at the UN General Assembly in 1988<sup>9</sup>. Also known as the Earth Summit, Rio 92 meant a conference that brought together about 108 Heads of State, who aimed at disrupting the development gap between different regions, but preserving the environment.

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<sup>9</sup>Resolution 43/196, from 20 December 1988.

Rio 92 was organized to analyze the environmental situation at that time and to carry out a survey of the 20 years after the first Stockholm conference in 1972, considering the results of the countries' actions regarding the protection of the environment<sup>10</sup>.

The foundations of this conference had already been discussed since 1972 at the Stockholm Conference. The main objective laid on identifying the progress, and what would still be necessary to achieve sustainability. It was intended to introduce the idea of sustainable development into a model of economic growth less consumerist and more suited to ecological balance.

In addition, the event aimed to develop strategies and effective measures to reverse the consequences of environmental degradation. This idea was tied to the promotion of sustainable development. There was also concern about environmental education and its funding.

Another aspect highlighted by Lago (2006) was that the Rio meeting, after the end of the Cold War, could give a more universalist tone to the environmental issue. It is worth remembering that in the 1980s, still under the Stockholm winds, there was the Vienna Convention for the protection of the ozone layer, in 1985, and the Montreal Protocol on substances that deplete the ozone layer.

In Rio 92, among the targets were discussions about the control of CO<sup>2</sup> emissions in the atmosphere, as well as the creation of parameters for the protection of biodiversity, including the sustainable use of forests and compensation for poor countries for the use of their natural resources.

According to the same speech by Collor de Mello (2017), three environmental agreements were signed, first by 175 leaders, which were later corroborated and ratified by the great majority of countries. The three agreements were: the Convention on Biological Diversity, the Convention to Combat Desertification and Mitigate the Effects of Drought, and the United Nations Framework Convention on Climate Change.

However, there was in fact a great deficit of implementation of the issues decided in Rio 92. The most visible effect of Rio 92, after a period of 15 years, was the initiatives of the international community on the issue of global warming. As an example, the Kyoto Protocol was signed in 1997, in Japan. The idea came from a meeting of the signatories of the Climate Convention, signed during Rio 92.

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<sup>10</sup> Doctorate dissertation. Paulista State University "Júlio de Mesquita Filho", Faculty of Science and Languages (Campus Araraquara, São Paulo). DE ESTOCOLMO, 1972 A RIO+20, 2012: O DISCURSO AMBIENTAL E AS ORIENTAÇÕES PARA A EDUCAÇÃO AMBIENTAL NAS RECOMENDAÇÕES INTERNACIONAIS.

As seen, a favorable institutional environment was created, as the event was held in a developing country, Brazil, and that favors the interaction between NGOs from developing countries and those of developed countries, allowing the construction of new cooperation arrangements. According to Lago (2006), another point supported by Brazil was the creation of the CDS (Sustainable Development Council) which represented a greater political focus on the problem associated with the loss of strength of UNEP.

It should be clear that the construction of an institutional apparatus for spreading goals within these major events, such as Rio 92, was not carried out without dialogue, as there were many divergences, such as the discussion of different goals between North-South relations, that is, the conflictive relationship between developed and developing countries. Thus, each signature in these agreements, such as the Convention on Biological Diversity, in RIO 92, represented potential advances. This agreement was signed by 154 countries and had clear objectives: (i) conservation of biodiversity, (ii) sustainable use of its components, and (iii) fair and equitable sharing of the benefits of using these resources. It is known that 2/3 of the world's genetic resources are found in developing countries, but usually the technical and financial capacity to exploit them are still in developed countries. Still, developed countries, such as the US, had not ratified the agreement until 2006 (LAKE, 2006).

It also brought new promises and agreements, such as the Kyoto Protocol, already in a spirit of greater political content, as it aims to reduce artificially released gases that increase the greenhouse effect. The way in which these gases were reduced in the world was a little more pronounced in relation to the developed countries vis-à-vis the developing countries. This was because the first group was largely responsible for the consequential problems. There was a lot of resistance from some countries signing the Kyoto Protocol. A significant example being the USA, which signed only in 2011. Nevertheless, Brazil has achieved great results.

In order to minimize such problems, a number of global projects such as the Brundtland Report, Agenda 21, among others - have been created - all with the aim of opening spaces for discussions on alternative development styles conducive to a more just development. In addition, there was the goal of transcending borders. This broad concept seeks to guide organizations to practice responsible management, preserving the environmental and human resources for the next generations, guaranteeing several benefits to society and organizations, which would induce sustainable development.

#### 4.1.1 Agenda 21

The concept of sustainable development was enshrined in Agenda 21, a document developed at the United Nations Conference on the Environment (RIO 92). "Agenda 21 is a program of action, based on a 40-chapter document, which is the most daring and comprehensive attempt ever to promote, on a planetary scale, a new pattern of development, reconciling methods of environmental protection, social justice and economic efficiency"<sup>11</sup>.

Agenda 21 aimed to represent a participatory planning effort for a better future, where the participation of the population becomes a crucial element for social insertion, and greater integration of government with civil society, for the definition of public policies. These, in turn, should be based on the principles cited during the Conference that underpinned the promotion of sustainable development. Agenda 21 was the main document resulting from the event. Agenda 21 considers, for example, strategic issues related to employment and income generation, the reduction of regional and interpersonal income disparities, changes in production and consumption patterns and the construction of sustainable cities.

In addition to this dense document, the Rio Declaration on Environment and Development was also launched. In this document, several principles of behavioral intentions are laid out, dividing developed and underdeveloped countries, and their responsibilities. Within that historical moment, few of these were still committed to the concepts of sustainable development. Despite this, there was already significant interest compared to the 1972 Stockholm Conference.

#### 4.2 Rio+10

After 10 years, the World Summit on Sustainable Development, also known as Rio+10, was held in Johannesburg, South Africa. Bringing together about 189 countries, the Conference aimed to resolve the implementation of the 1992 targets, transfer technology and instruments to make the agreements move faster, and solve the problems of financial resources to help developing countries. The discussions at Rio+10 were not limited to issues related to the preservation of the environment, but also encompassed some social aspects. As one of the most important points of the conference, it is possible to cite the search for measures that would reduce the number of people living below the poverty line. Issues related to basic sanitation, water supply, biodiversity,

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<sup>11</sup>[http://www.universoambiental.com.br/novo/artigos\\_ler.php?canal=6&canallocal=11&canalsub2=31&id=80](http://www.universoambiental.com.br/novo/artigos_ler.php?canal=6&canallocal=11&canalsub2=31&id=80).

health and other social factors were also discussed, as well as attitudes related to agreements signed during Rio 92.

This event was also known as the World Summit on Sustainable Development (WSSD). In 2002, despite the technological advances to solve problems, there were still several unsolved issues. That point the difficulty of governance by the UN. Despite the advances in the legal apparatus, although slow, several resistances would have to be overcome. Developed countries are the largest polluters (industrialized countries), while developing countries have a much larger natural resource base. Those have a variety of problems, resulting from problems of public management and the lack of legitimacy of this new concept in terms of the informal institutional environment ( $\theta_i$ ), which is the institutional environment associated with the behavior of the local population.

At the Johannesburg Conference (Rio+10), questions have arisen. Globalization, as it has asymmetric effects among countries, favors poverty and affects fragile democratic regimes, thus appealing to dictatorial regimes. Within this framework, there was a clear desire to increase access to drinking water, sanitation, increased biodiversity, food security, and so on. The event also sought to prioritize adverse aspects such as drug trafficking, malnutrition, corruption, organized crime, terrorism, xenophobia, chronic communicable diseases, among others, according to Diniz (2002).

The same author compares the goals of the Johannesburg conference with the data he has generally obtained from the IBGE (Brazilian Institute of Geography and Statistics) and always points to the Northeast region of Brazil, for its empirical evidence, since it presents the worst indicators. For example, there are houses without bathroom or sanitation. According to 2000 data, the region accounted for 72.5% of this problem in the country. Regarding the absence of piped water (not even with access to a well or spring on the property), according to IBGE data in 2000, 77.2% of this problem is represented by the Northeast region, compared to Brazil (DINIZ, 2002).

A second point of the event highlighted by the author was the need to improve the energy issue. This meant in practice: increasing access to modern energy services, pursuing energy efficiency and increasing the use of renewable energy. In this issue, Diniz (2002) reminds us of biodiesel and ethanol, and of the difficulty of being competitive with gasoline, in the Brazilian case. He also recommends reducing the energy subsidy. At this point, perhaps, it is more important to leave the coordination of prices and to reduce the waste in the use of energy, as well as the search for economics.

A third point would be the need to minimize the use of chemicals harmful to health, and to promote cooperation to reduce air pollution (including greenhouse gases above tolerable standards) by 2020.

Rio+10 also had the purpose of discussing the results of RIO 92 and ratifying the Kyoto Protocol. Unfortunately, the conference was one of the biggest failures of the UN in terms of the environment, because in relation to RIO 92 results, it was concluded that little had actually changed. With regard to the ratification of the Kyoto Protocol, there was no success. The conference was held in 2002 and the ratification of the protocol took place only in 2005.

#### 4.3 COP 15

In 2009, the COP 15 (15th Annual Conference of the Parties) was held in Copenhagen, Denmark. The United Nations Conference on Climate Change brought together world leaders to try to solve the problem of climate change. Once again, the meeting aimed to discuss the reduction of gases that generated the greenhouse effect, at a time when Brazil, represented by former President Lula, also committed to reducing deforestation in the Amazon. Again, there is a sense of failure to reach agreements (ARAÚJO, 2014).

#### 4.4 RIO+20

Collor de Mello (2017) proposed in 2007 the holding of this Conference, approved by the UN in 2009, in order to rescue the "spirit of Rio", when the goals proposed by the Kyoto Protocol also expired. After 20 years of the United Nations Conference on Environment and Development (Rio 92), in June 2012, the United Nations Conference on Sustainable Development (Rio+20) was held in the city of Rio de Janeiro, which emerges with the objective of ensuring the political commitment associated with sustainable development. Its main themes were green economy, in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.

The eradication of poverty and the promotion of sustainable consumption patterns are general objectives of Rio+20, objectives that were more relevant than all other sustainable development actions. A final document called "The future we want" was drafted and was widely criticized by environmentalists and opinion leaders linked to environmental causes, who expected practical measures to ensure sustainable development. The definitive text showed inconsistencies.

According to Araújo (2014), the main barriers that separated Rio+20 from its fundamental purpose were:

*Lack of clear definitions of specific responsibilities, financial allocation and deadline establishment for the adoption of measures promoting sustainable development by the competent authorities in each country; the fact that negotiators from developed and developing countries have repeatedly collided, especially when the discussion involved the release of resources: the \$30 billion fund for environmental preservation in developing countries has not been approved; and the fact that the United Nations Environment Program (UNEP) did not become an agency as expected. As a result, the program continues with restricted and structure-free powers to carry out practical measures for environmental preservation.*

Rio+20 was considered a failure, since there was no significant improvements compared to Rio 92. Some of the factors that foreshadowed its failure originated from several characteristics that made the Rio+20 unique, especially those that refer to its conception, expected results and preparatory process.

Firstly, unlike the other Stockholm and Rio 92 Conference events, Rio+20 was not considered a summit meeting, but only a review meeting where the presence of Heads of State and Government was not essential, since the adoption of state decisions was not foreseen (GUIMARÃES; FONTOURA, 2012).

Secondly, the preparatory process for the Conference was considered disappointing for many governmental and non-governmental representatives who attended the meetings. It happened much less than what was expected. Another disappointing factor was the fact that it became evident that there was not yet a world leader who presented a strategic vision for the future. Thus, it left an empty space as to the direction of the negotiation process. It was not a complete institutional environment to ensure the necessary paradigm shift. The same question kept on being asked: What development do we want? Sustainable development was difficult to impose as a response, due to resistance from developed countries and a certain complacency with developing countries.

And third, the most important document of Rio+20, called "Zero Draft" (entitled "The Future We Want") seems to have had strong resistance. An initial document of 300 pages, reduced to a third at the beginning of the conference, was still filled with questions and items that were not approved. Finally, from then on, the failure of the conference was announced (GUIMARÃES; FONTOURA, 2012).



## 5 EXAMPLES OF GREEN MEASURES IN BRAZIL

Almeida (2002) mentions that the critique of the concept of sustainable development has led to a paradigm shift. In this sense, it is noticed that the companies are initiating a process of sensitization on the environmental question and reflecting the importance of this point in the globalized business scenario. Many companies see the environmental issue as unavoidable, since consolidated companies that practice social and environmental actions such as "green management", beyond contributing to the environment, can lead to a competitive advantage or strategy. According to Almeida (2002), one of the main reasons why companies adopt the principles of sustainable development is the need for survival because they see eco-efficiency, and perceive that they can produce more, improve quality, reduce environmental risks, and even improve the internal process.

There are several solutions to be considered together in a society that is unreasonable and indifferent to the problem in most cases. In the Brazilian case, this is evident. Kotler (2015) emphasizes the need to discuss the reduction of areas with livestock to increase the area with agriculture focused on food production. The energy matrix, in the Brazilian case, is much cleaner than in most of the world, through the use of renewable energy. There is a need to reduce the use of fossil fuels. The flex car option helps in that direction, but begins the electric car diffusion. In addition, there are sources of wind and solar energy to lessen the impact of other sources more aggressive to the environment.

On the other hand, public policy mechanisms for the preservation and conservation of green areas are available, but it is an option of the landowner, and/or public management. The following can be cited: the adoption of the RPPN (Natural Heritage Private Reserve), the Green IPTU (Property Tax), the ecological ICMS (State Sales Tax) and the Forest Code. In the literature, there are, for example, some experiences with Green IPTU, an excellent option to activate urban amenities. The solutions exist, but in fact, they are not accepted and disseminated to the entire population. This starts with the rural owner and goes to the urban population. Thus, it is the informal institutional environment ( $\theta_i$ ). The option exist, but only a few cities adopt the Green IPTU. The solution of the ecological ICMS is adopted only in some units of the federation and there is lack of interest in the use of the Forest Code. Disrespect for the Code screams out. The choices are made by both public managers and entrepreneurs. For the most part, there is the indifference to the theme, discarding the possible benefits generated.

In addition, the need for control over the use of irrigation needs to be reinforced. There are options for agricultural activities to be directed toward less water use. In this context, the protection of riparian forests and springs is an "obligation", but there are clear flaws in the adoption of these measures in practice, although legislation already exists.

## 6 DISCUSSION

After so many conferences, the feeling is that problems grow much faster than building an adequate institutional environment to deal with them. A reconciliation of interests is not achieved, and the North and South approaches do not seem to advance in order to consolidate a new paradigm, based on the diverse sources of historical information brought to understand the trajectory of these events. Thus, it seems clear that  $d^2\theta_F/dt^2 > d^2\theta_I/dt^2$ .

Considered the father of marketing, the great economist Phillip Kotler (2015) is also concerned about the problem. For him, companies need to consider ten environmental problems: 1) Climate change; 2) Energy; 3) Water; 4) Biodiversity and Land Use; 5) Chemicals, toxic products and heavy metals; 6) Air Pollution; 7) Control of waste; 8) Depletion of the Ozone Layer; 9) Ocean and fishing areas; and 10) deforestation.

However, for the same great academic reference, "the company that acts in a sustainable way evaluates the possible impact of its processes and products on the environment and society as a whole." Companies need to design a structure that favors their growth and expansion without compromising the environment, while not allowing negative externalities to harm people and/or communities. Associated with this, there are problems of market failures. For this, it is necessary to develop administrative strategies, new productive techniques, reorganized productive process, causing the increase of quality and reduction of negative impacts to the environment.

Another polemic point is the lack of a demographic policy that is not even addressed in the academic discussions on the subject, but China itself makes coercive use of this policy because of its inability to meet the needs of so many.

## 7 FINAL CONSIDERATIONS

This work has qualitatively addressed the opening of a research agenda to understand the lack of diffusion of technologies and existing legal apparatus in defense of the environment. Based on a large bibliography, it is evident that there is no need to react against the environment, when

the environment can be a favorable weapon for companies. There is an example in terms of environmental management: the Coruripe power plant. In 2016, the organization was solid in the sugar-energy sector in Brazil, using the same strategy. There are numerous examples also in terms of municipal management in the adoption of the green IPTU.

It should also be noted that there is a need for environmental education and institutional publicity in order to make effective such behavioral change. There is a clear lack of rationality by the people affected by the problem. Institutional advertisement and the compulsion of environmental education in schools need to be constantly at work.

In addition, legislation must be enforced. In this context, the Polluter Pays Principle must be considered more forcefully. In some cases, less use of fiscal incentives and greater use of price coordination should be made, when it is to favor the environment and try to contain the consequent effects of climate change. This means that certain types of fiscal incentives favor greater use of natural resources that need greater protection.

There is a great deal of energy aimed at containing the actions of unscrupulous politicians, and climate change continues to worsen the population's living conditions.

All such measures use Brazil as an example here, but they can be used anywhere in the world, when they do not yet exist in these localities.

As we can see, this is a Brazilian problem, but very evident also in the problem of UN governance in these issues. Practical actions are urgent. In the meantime, the "institutional environment" continues to restrain change, as has been seen in this work historically, and seen in a simple model suggested by Lages (2016).

Sustainable development is also a problem of institutional environment. Douglas North (1989; 1990), a winner of a Nobel Prize in Economics, was already signaling this. And History, one of his favorite methods of analysis, proved that he was right.

Piketty (2017) proposed how to make this happen to divide the weight of CO<sup>2</sup> between North and South countries, having similar concerns to those highlighted in this paper.

Donald Trump's withdrawal from the United States of the Paris Agreement only corroborates the difficulties of global governance dealt with in Veiga (2013), and the truth that  $d^2\theta_F/dt^2 > d^2\theta_I/dt^2$ .

Finally, there is a wide range of actions to be implemented. However, there is a clear mismatch. It was the objective of this work to put as a contradiction the formal and informal institutional environment. There are two faces: the legislation that already exists to guarantee such actions, and their real adoption by society. In fact, there is a disguised indifference, it seems, at the

Artigo original

Hegemonia – Revista Eletrônica do Programa de Mestrado em Direitos Humanos, Cidadania e Violência/Ciência Política do Centro Universitário Unieuro

ISSN: 1809-1261

UNIEURO, Brasília, número 28, Julho a Dezembro de 2019, pp. 80-100.

federal, state and especially municipal level, when these themes are placed at a level of priority incompatible with the urgency it requires.

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