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The BRICS in the era of sustainable development: A view about the clean energy and biofuels

Abstract

The sustainable development has become a way to be followed, therefore, this article pretends to show how the BRICS can develop a cooperation most strong in the link between economic and environmental areas, more specifically in the clean energy and biofuels issues. So, it will be shown the New Development Bank as a motor of this, it was created with the purpose of approximating such countries, and one of main ways of investment is in the sustainable development issue. Thus, it is necessary that from the bank, the countries cooperate in micro areas with small national groups debating among themselves.

Keywords: BRICS; New Development Bank; Sustainable Development; Economy issue; Environmental issue.

The BRICS (Brazil, Russia, India, China and South Africa) is a group with various differences between itself. For example, China has emerged as a superpower beside the United States of America (USA), including, disputing influences zones and power with the USA, there are some conflict zones in the Caxemira region between India and China, Brazil has tried a greater approximation with the USA and it search its entered at Organization for

Economic Cooperation and Development Countries (OECD), thus moving away from emerging countries environment of coexistence. Therefore, in the last years, it has verified the growth of asymmetries between the countries of the BRICS, so, how would be possible to turn this situation? What kind of agenda could be the object of full cooperation between these countries? In this article will be shown an alternative for this.

With the sanitary emergency of Covid-19, the world is searching for a different way's life, mainly regarding the environmental and economic aspects or a mix of these, that is, a sustainable economy. This is a way in which the international community (IC) is right to follow. However, a new format of international structure could not be molded just by the developing countries, instead of this, at the present time, it is perceived as a participation increasingly greater of emerging countries in the international system (IS).

In this conjecture, the environmental issue has been much discussed by the academic, political, economic arenas. Focusing on this first aspect, that is, the environment, it has observed an intense debate about this since the 1970 decade, perpassing by Stockholm Conference in 1972, Rio 92 (1992) and, more recently, the Rio + 20 in 2012. Beyond COPs (Conference of the Parties) that happens all the years, which is inserted in the UNFCCC (United Nations Framework Convention on Climate Change). And it was in one of the COPs that took place the signing of the Paris Treaty, in the 21st Conference of Parties realized in this city, in 2015.

In this context, it is noted that the environmental issue is characterized as an international regime. As pointed out (1) Stephen D. Krasner Structural causes and regime consequences: regimes as intervening variables, Cambridge, M.A.: International Organization, 1982, pp. 185-205, "International regimes are defined as principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area", however, this theory

suffered some critics like those made by the author (2) Susan Strange, Cave! Hic Dragones: A Critique of Regime Analysis, Cambridge, M.A.: International Organization, 1982, p. 479-496, 1982, about the five dragons or dangers that the international regime concept represents, between these critics, the author points out that “regime” is a term that could signifie other things, and sometimes, it is a word that remember dictatorships, for example, military regime in Brazil.

Nevertheless, over time, this concept was being molded, and in the year of 2010, the regime complex for climate change, a theory presented by (3) Robert Owen Keohane and David G. Victor, The Regime Complex for Climate Change, Cambridge, M.A.: Harvard Kennedy School, 2010, pp. 10-33, points out that beyond the Krasner’s theory, the actors of the IS cannot to want cooperate one with the others, for this, they moving them in direction to the regime complex, which is characterized by its aspect not so centralized or totally fragmented, this a place that the actors has a greater room for manoeuvre, and some regimes are complexes because in determined areas, the states not agreed in any specific point of this structure.

On the one hand, although in developing countries, like the BRICS, have a flexibility to adopt the terms of the Paris Treaty, on the other hand, yet in the complex regime for climate change, the BRICS can mold their own structure of cooperation in this issue, mainly with economic investment in key areas such as clean energy and biofuels. To try to trace an horizont in the cooperation between the BRICS, it is necessary to explain about the current positioning of each country regarding these two aspects: clean energy and biofuels.

Brazil

Among the countries of the BRICS, Brazil has a vast experience in these two areas. The country has around 80% of its energy matrix composed of clean energy, mainly hydropower, and It is one of leaders in production of biofuel.

According to (4) Agência Nacional do Petróleo, Gás Natural e Biocombustíveis, Renova Bio, Brasilia, Brazil: ANP, since 2017, Brazil has established a policy of growth of biofuels in its energy matrix for fuels, trying to decrease the participation of fossil fuels. Among others goals of this program is the cumpriment of the compromises assumed at the Paris Treaty. As shown in the graphic below, powered by (5) International Energy Agency, Country Profile: Brazil, Paris.: IEA, France, 2020, regarding clean energy, the hydropower is quite significant, and, according to (6) Shihong Zeng et. al, A review of renewable energy investment in the BRICS countries: History, models, problems and solutions, Amsterdam, Netherlands.: Elsevier, 2017 pp. 779-872, Brazil has an ambitious goal in this year (2020) to raise the wind energy participation to 7% of its energy matrix. However, in the clean energy area also can be noted that biofuels have been playing an increasingly greater role in the fuels area of Brazil's economy.

Figure 1- Total energy supply (TES) by source, Brazil 1990-2019

Source: IEA, 2020

Russia

According to the (7) International Renewable Energy Agency, REMAP 2030: Renewable Energy Prospects for the Russian Federation, Abhu Dhabi, United Arab Emirates.: IRENA, 2017, p. 85, bioenergy and hydropower are the main renewable sources of energy in Russia, these represented, in 2015, around 20% of the total of the capacity installed and, on the report powered by (8) Jai Sharda, The New Development Bank: Its Role in Achieving BRICS Renewable Energy Targets: Institute for Energy Economics and Financial Analyses, Lakewood: O.H.: IEFFA, 2016, p.13, shows that Russia powered, in 2015, 16% of the total energy matrix from renewable sources. Furthermore, (9) Azhaham Perumal Saravanan, Arivalagan Pugazhendhi and Thangavel Mathimani, A comprehensive assessment of biofuel policies in the BRICS nations: Implementation, blending target and gaps, Amsterdam, Netherlands: Elsevier, 2020, p. 12, show that the government of Russia formulated a strategy of decarbonization of your energy matrix in 2009. The goal of this program is to reach a growth from 4% to 14% in 2030 about the rating of non-carbon in the fuels area of Russia's economy. As it is shown in the figure below, from the IEA, Country Profile: Russia, natural gas is the greater responsibility of the supply of Russia. Clean energy has a low participation in the energy matrix.

Figure 2- Total energy supply (TES) by source, Russia 1990-2018 Source: IEA, 2020

India

In 2018, it was launched by indian government the India biofuel policy, in which, “this policy is proposed to achieve 20% blending of ethanol in petrol (E20) and 5% blending of biodiesel in diesel by 2030.” is pointed out Azhaham

Perumal Saravanan, Arivalagan Pugazhendhi and Thangavel Mathimani, A comprehensive assessment of biofuel policies in the BRICS nations: Implementation, blending target and gaps, p. 7. Also according to the authors, until the moment, India achieved only 2% at the first and less than 0.1% at the second. Moreover, according to the IEA, Country Profile: India, regarding clean energy, between the years of 2016 and 2018, the participation of solar PV and wind energy doubled from 4% to 8% in the energy matrix. As can be seen below, the coal still is coal, but regarding fuels area, it is observed that India is one of the greater producers of biofuels in the BRICS. As pointed out by Shihong Zeng et. al, A review of renewable energy investment in the BRICS countries: History, models, problems and solutions, p. 862, in 2016, wind power is the largest type of renewable energy in India, and, followed by solar power in which also weighs in the India's energy matrix

Figure 3- Total energy supply (TES) by source, India 1990-2018

Source: IEA, 2020

China

China also has tried to adopt various forms of incentives in utilization of

biofuels as “tax subside, financial incentives, national strategies and technical standards” pointed out Azhaham Perumal Saravanan, Arivalagan Pugazhendhi and Thangavel Mathimani, A comprehensive assessment of biofuel policies in the BRICS nations: Implementation, blending target and gaps, p. 8. Therefore, China has searched to increase the percentage of biofuels instead of fossil fuels, mainly, through the biomass feedstocks base. According to the IEA, China will lead the great transformations in the renewable source of energy in the world in the sense of quantity about this. For example, between 2019 and 2024, “China will account for 40% of global renewable capacity expansion [...], and it is forecast to account for almost half of global distributed PV growth.” This is shown by IEA, Country Profile: China. Also according to the agency, China will turn the greater producer of biofuels due its production to be in various provinces of this country.

Figure 4- Total energy supply (TES) by source, China 1990-2018

Source: IEA, 2020

South Africa

In 2007, the government south african elaborated a strategy to develop the

biofuels sector. The goal of this national strategy, as pointed out by Azhaham Perumal Saravanan, Arivalagan Pugazhendhi and Thangavel Mathimani, A comprehensive assessment of biofuel policies in the BRICS nations: Implementation, blending target and gaps, p. 9, “was to achieve 2% penetration level of biofuels in total national liquid fuel supply by 2013”. But this was not achieved with success because there was not heaving investment from the government, and because it was not clear the aspects of biofuels framework in South Africa, regarding the clean energy, according IEA, Country Profile: South Africa, the greater problem refers to the public opinion, because the South African is not concerned about where does it come from the fuels or the energy that they use. Even with all adversities, the government of South Africa has tried to avance in the sense of growing the range of energy. As can be seen below, the coal has a big participation in the energy matrix in the country.

Figure 5- Total energy supply (TES) by source, South Africa 1990-2018

Source: IEA, 2020

The (10) New Development Bank, About us, Shanghai, China: NDB, 2016,

shows that it was created in 2014 with the aim of becoming an investment alternative in the world facing the World Bank, beginning to the BRICS and after with other emerging markets. NDB's two main forms of investment are in the areas of infrastructure and sustainable development. This article, as seen, will pay attention to the latter form of investment, that is, sustainable development, specifically in clean energy sources because energy is the basis of any country's development.

According to (11) New Development Bank, Annual Report 2019, Shanghai, China: NDB, 2020, p. 148, in 2018, clean energy represented the major rating of the bank's investment with nine projects available in USD 1,937 billion, and in 2019, the NDB approved a total of USD 1.6 billion in loans to the clean energy financing in countries of the BRICS, but cumulatively speaking, and in 2019, this preference to clean energy was repeated, with fourteen projects contemplated, it is a total investment of USD 3,519 billions. As seen above in regard to the situation of clean energy in South Africa, the NDB approved for this country the bigger loan between the BRICS, with the goal of developing this sector there.

Figure 6- Cumulative approvals for clean energy projects (as at December 31)

NDB, 2020.

Sum up, it is very important the cooperation between the integrantes of block because the order of the international system is changing in the way in which the emerging countries have the opportunity to grow. An interaction does not only in terms of economically or politically speaking in order for each one to reach their goals, but even the asymmetries between themself, the countries need to elaborate an action plan to cooperate in ambit micro. For example, in the agricultural area it would be interesting a change of information between the countries.

Is known to community scientific and others sector of international relations that the foreign policy of a determined country is not formulated by a head of State, instead this, the foreign policy is a domestic construction of each country, that is, to arrive to the decision final, the intern groups debating one with other in which each one wants to make to earn their own interests, just so the policymaker leaves to the international negotiation the decision discussed by various groups.

Therefore, the countries of BRICS need to start a cooperation micro, between these groups, agencies and other institutions. For instance, between the BRICS, Brazil is the more advanced in clean energy and biofuels issues, so, the South Africa, which is the worst of the group in this questions, could be, inside of BRICS environment, search a cooperation with agencies of energy and biofuels of Brazil as Ministry of Mines and Energy.

However, on the report of (12) Milton Leal, Wu Yixiu and Aditi Roy Ghatak, New perspectives on the new BRICS bank: Views from Brazil, India, China on the New Development Bank, p.13, at least a critique is made to the NDB, the authors say that some factors like low transparency of the NDB, the desire of incorporate new members without to be well established and the absence of a official channel with the bank concerns the civil society as well as the private

sector as a whole. Would this be the problem between the BRICS? Will that be the channels among the countries and, concomittentment between their national institutions, governmental agencies, society civil would be with lack of transparency?

The solution for this, perhaps would be a creation of links between the countries, mainly through of conferences about specific tematics, because while the BRICS concern only the macro issues, with greater meetings with head of States, the block does not will not reach the success and the strong that it be enough to facing developed nations. In this sense, the New Development Bank is, therefore, just a core of cooperation.

Thus, the block can use the window of opportunity of the development sustainable to formulate their own framework in economic and environmental issues, because the climate change is a regime complex as said by Robert Owen Keohane and David G. Victor, The Regime Complex for Climate Change, pp. 10-33. The BRICS need to take this and to intensify their cooperation among them in this tematic.

Lastly, according to the New Development Bank, Annual Report 2019, p.70, it will continue advancing, even with Covid-19 conjecture. With USD 10 billions into project approvals, in which, RMB 7 billions was for China, to the Covid-19 combat and USD 1 billion for India in emercial caracter. The purpose of the bank is to establish it as a financial institution reliable, and it pretends to make this through a direct contact of these regional agencies in countries as South Africa. Indeed, this is a bank of sustainable projects and it has everything to work.