

## **BRAZIL ON NUCLEAR DISARMAMENT AND NON-PROLIFERATION**

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**ABSTRACT:** The Federative Republic of Brazil has a deep commitment to nuclear disarmament, non-proliferation and for the fissile materials control, which is reflected in its current participation in several international treaties and regimes for the control, non-proliferation and prohibition of nuclear weapons. This commitment has evolved as part of Brazil's foreign policy over the years, moving from military nuclear ambitions in the late 1970s to the signature of the Treaty on the Prohibition of Nuclear Weapons in 2021. This article aims to showcase the country's successful journey on this front, particularly by delving into the key international treaties on nuclear control and disarmament to which Brazil is currently a party. The present paper is developed in a dialectic methodological approach between the conservative military lens and humanitarian perspectives in Brazilian foreign policy.

**KEYWORDS:** Nuclear Disarmament; Nuclear Non-Proliferation; Brazil's Foreign Policy

### **INTRODUCTION**

Brazil has a very interesting and successful history regarding nuclear weapons - when viewed through the lens of prioritizing nuclear disarmament as a crucial goal for global peace and international security. The purpose of the present text is to describe such an itinerary. After the development of nuclear technology and infrastructure, partly motivated by a sense of distrust with its neighboring country, Argentina, to which it contemplated the hypothetical possibility of armed conflict, Brazil reached a turning point, gradually becoming a contributor in the leadership for non proliferation, control, prohibition and disarmament regarding nuclear weapons, in several different forums and schemes.

The conceptualization of disarmament includes a comprehensive perspective of measures, in national and international levels, to eliminate, to regulate, but also to limit or reduce, to limit or prohibit transfers, use, development, tests, production and proliferation of (certain) weapons. The international measures and agreements may be unilateral, bilateral, or multilateral (regional or universal). All possibilities are explored in the search for international security through the control of nuclear weapons.

Nearly 80 years after nuclear weapons were first used in Hiroshima and Nagasaki, they remain a critical global concern. Designated as 'weapons of mass destruction', these creations pose a constant challenge to international governance. Capable of obliterating cities, causing mass casualties, and threatening the environment, they cast a long shadow over the well-being of future generations.

The stored arsenals hold the possibility of the destruction of all human life on Earth. Recent information indicates that currently, the estimated number of nuclear weapons held by

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the nine nuclear-armed states (United States, Russia, United Kingdom, France, China, India, Pakistan, Israel, and North Korea) is 12,512, of which approximately 2,000 would be maintained in a state of high operational alert, meaning ready for launch within minutes (SIPRI, 2023). It is worth noting that until 1986, the quantity of these weapons reached an alarming number of 70,300 warheads, according to data from the Federation of American Scientists (FAS, 2023).

The global governance for nuclear weapons control and disarmament involves diverse actors, norms, and regimes. Due to the heightened sensitivity of the issue, nuclear weapons are uniquely categorized as weapons of mass destruction (WMD), receiving intense international legal and political attention. Approaches include disarmament, nuclear-free zones, cooperation on nuclear materials, prohibition of nuclear tests, governance of atomic energy, and defining geographical scopes for these regimes.

To address this, various international (bilateral, multilateral, regional and universal) and national political spaces have guided the issue, in light of the narratives of different actors (state and non-state, national and post-national) and various sources of international law have also been created, such as treaties, jurisprudence in contentious cases and advisory opinions at the International Court of Justice, decisions by international organizations, as well as various treaty decisions.

Regarding this matter, it's worth mentioning that Brazil initiated its nuclear research in the 1950s and, by the mid-1980s, had distinguished itself as one of the few nations globally that had successfully developed uranium enrichment technology, mastering a key technology for the independent production of nuclear energy. Brazil achieved this feat by developing its own technique for uranium centrifugation. However, despite its technological capabilities in the nuclear sector, the country opted for the exclusive peaceful utilization of nuclear energy, committing itself to various international treaties that envisage the control and prohibition of nuclear weapons on bilateral, regional, and multilateral levels.

In this scenario, it is also important to highlight that the country's dedication to the exclusively peaceful use of nuclear energy is outlined in its 1988 Constitution. The engagement of Brazil in the pursuit of a nuclear weapons-free world translates, on the international stage, the constitutional commitment to peaceful uses of nuclear energy and the prevalence of human rights and humanitarian law in international relations.

Within this context, the present article aims to outline the principal international instruments to which Brazil has pledged its commitment for the control and prohibition of nuclear weapons. Special attention is given to the cultivation of trust in nuclear affairs, particularly with its primary neighbor, Argentina, as the development of trust between these nations was an essential step for Brazil's commitment to other regional and multilateral agreements focused on nuclear weapons control and prohibition. Furthermore, the article highlights Brazil's recent involvement in the negotiations related to the Treaty on the Prohibition of Nuclear Weapons.

## 1. Brazil and Argentina: The turning point from mutual distrust to bilateral commitments to the exclusively peaceful use of nuclear energy

The intricate dynamics of fostering trust between states in the field of International Relations begin with the resolution of strategic tensions. Such tensions have historically dominated the landscape of interstate relations and prominently influenced the foreign policy agendas of neighboring states, including the relationship between Argentina and Brazil, the two largest countries in South America and heirs to the historical tensions between the kingdoms of Portugal and Spain in the region, besides relevant differences among both countries displayed below in the comparative chart

	<b>Argentina</b>	<b>Brazil</b>
<b>Territory (km<sup>2</sup>)</b>	2,780,000	8,510,000
<b>IPB (billions usd/2022)</b>	600.92	1,919.6
<b>population (millions)</b>	47.32	203.1
<b>Armed forces</b>	77,861militaries	360,000
<b>military budget (Billions USD)</b>	2.5	20,2

### 1.1 Brazil and Argentina shift plans: from nuclear deterrence to cooperation

The arms race between the United States and the Soviet Union, during the Cold War, also inspired other countries to develop their own nuclear technology, including Argentina and Brazil. Remarkably, in the course of its nuclear program, Argentina attained a more advanced status in nuclear technology compared to Brazil. It became the first South American nation to establish a nuclear power plant.

Additionally, Argentina possesses significant uranium deposits in Latin America, with its largest open-pit uranium deposit located in Sierra Pintada, Mendoza, making it one of the largest in South America. This indicates that the country had important natural resources for the development of its nuclear capabilities (OLIVEIRA, 1996, p. 86). According to Mendoza (2005, p. 10), the initiation of Argentina's nuclear development was tied to the strategic and geopolitical considerations controlled by military governments at the time. The author suggests that the main focus of Argentine strategic thinking, at least until the 1980s, was the concern about Brazilian expansionism and the historical rivalry for hegemony in the Southern Cone region.

Similar to Argentina, Brazil also embarked on nuclear research in the 1950s. Several research institutes were established in Belo Horizonte, Rio de Janeiro, and São Paulo equipped with sophisticated laboratories and experimental reactors. These research efforts expanded in the 1970s through partnerships with the United States and later with Germany, leading to the construction of the Angra I and II nuclear power plants (OLIVEIRA, 1996, p. 19 to 21).

Regarding the Brazilian nuclear development, Oliveira (1999, p.289) states that the Brazilian government at the time, also under military rule, aimed for autonomous control of military technologies, including nuclear capabilities. Seeking to avoid international scrutiny, especially from the International Atomic Energy Agency (IAEA), the Brazilian government implemented a parallel nuclear program. This program was autonomous, secretive, and aimed to develop uranium enrichment technology.

It is important to highlight that during the 1960s and 1970s, Brazil and Argentina did not have access to information about each other's nuclear programs. This lack of information exchange regarding their respective nuclear programs fueled suspicions on both sides (ABACC, 1993, p. 04). About the mutual distrust existing between the Argentine and Brazilian nuclear programs, Queiroz states:

In the absence of other significant disputes in the bilateral relationship, mutual distrust still lingered regarding their respective nuclear programs. The two countries were then conducting autonomous research and development programs aimed at self-sufficiency in the sector, with an emphasis on the most critical phase of the nuclear fuel cycle - uranium enrichment - which they would ultimately master in 1983 (Argentina) and 1987 (Brazil) (QUEIROZ, 2016, p.66, loose translation from Portuguese)

As early as the 1970s, there were suspicions within the international community that their domestic nuclear energy programs had military purposes. In this regard, both countries did not fully participate in the nuclear weapons-free zone in Latin America, established in 1967 with the Treaty of Tlatelolco for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (1967). They also did not join the Treaty on the Non-Proliferation of Nuclear Weapons, in force since 1968. Furthermore, both advocated for the right of countries to full peaceful nuclear technological development, including the conduct of nuclear tests. These factors generated mistrust in the international community and led to them being considered possible proliferators of nuclear weapons (PATTI, 2016, p. 52).

However, over time, the relationship between the two countries underwent a gradual transformation, primarily driven by confidence-building measures in the nuclear arena. As clarified by Oliveira (1999, p. 379), the rapprochement between Brazil and Argentina was gradually taking root and saw a significant breakthrough after the signing of the Itaipu-Corpus Tripartite Treaty (1979). This treaty resolved a major diplomatic dispute between Brazil and Argentina regarding the construction of the Itaipu Hydroelectric Power Plant and the hydroelectric utilization of the Paraná River basin. With this resolution, a crucial step was taken, paving the way for effective cooperation in the nuclear field as well.

## **1.2 The bilateral commitments for transparency and peaceful use of nuclear energy**

On 17 May 1980, Brazilian President João Baptista Figueiredo traveled to Buenos Aires, where, along with Argentine President Jorge Videla, they established the Agreement for Cooperation in the Development and Application of Peaceful Uses of Nuclear Energy (1980). In this act, the two heads of state emphasized the importance of documents related to nuclear matters. They declared their intentions to access cutting-edge technologies and the most advanced applications as an indispensable means for the economic development and effective exercise of sovereignty by both nations. However, they reaffirmed that their nuclear programs aimed exclusively at peaceful purposes and the need to prevent the proliferation of nuclear weapons (OLIVEIRA, 1999, p. 381).

Thus, the rapprochement initiated under the military governments continued after democratization. In 1985, Presidents José Sarney and Raúl Alfonsín held a historic meeting in the city of Foz do Iguaçu, inaugurated the Tancredo Neves Bridge (connecting the Brazilian municipality of Foz do Iguaçu to the Argentinean city of Puerto Iguazu), and signed the Iguaçu Declaration and the Joint Declaration on Nuclear Policy (1985). These documents reaffirmed the peaceful nature of their respective nuclear projects. The Joint Declaration on Nuclear Policy addressed the formation of a working group under the responsibility of the Brazilian and Argentine foreign ministries, with the aim of enhancing relations between the two countries in the nuclear field.

The document also pointed to the ‘creation of mechanisms to ensure the highest interests of peace, security, and development in the region’ (BRAZIL; ARGENTINA, 1985). According to Candeas (2005, p.26), this period of democratization in both countries contributed to greater progress in Argentine-Brazilian relations, laying the groundwork for a new understanding in bilateral relations. For the author, the Iguaçu Declaration symbolized a new milestone in closer ties under democratic governments.

Following the meeting in Foz do Iguaçu, a series of initiatives and meetings were swiftly adopted by both countries, demonstrating their concern to establish a joint nuclear policy, still under the presidencies of José Sarney and Raúl Alfonsín. In July 1986, the document known as the twelve protocols was signed. This document aimed to deepen trade exchanges between the two countries, with one of these protocols exclusively addressing nuclear cooperation. It established a system of immediate information and mutual assistance in cases of nuclear accidents and radiological emergencies, demonstrating an initiative to advance nuclear cooperation (OLIVEIRA, 1999, p. 382).

In an effort to advance the cooperation initiated, the two presidents expressed, in December 1986, the well-known ‘Brasília Declaration’, which ratified the terms of the Iguaçu Declaration and encouraged business participation in industrial projects linked to the nuclear field (OLIVEIRA, 1999, p.385). In July 1987, Brazilian President José Sarney was invited by President Raúl Alfonsín to visit the Pilcaniyeu plant. This was the first visit by a foreign leader to the secret Argentine plant responsible for uranium enrichment.

The unprecedented nature of this visit demonstrated the growing trust and openness being built between the two countries. On this occasion, the Viedma Declaration was made, where the presidents highlighted that the visit constituted a ‘fundamental milestone’ for fostering mutual trust (BRAZIL; ARGENTINA, 1987). In reciprocity, the following year, President Raul Alfonsín visited the facilities of the Aramar Experimental Center in Iperó-SP, where Brazilian technologies for uranium enrichment were being developed. On this occasion, the Iperó Declaration was issued, where the presidents decided to ‘improve the mechanisms of existing political and technical cooperation through increased visits and information exchanges’, emphasizing the goal of deepening mutual trust (BRAZIL; ARGENTINA, 1988).

Continuing the trend of rapprochement, the Integration, Cooperation, and Development Treaty between the Argentine Republic and the Federative Republic of Brazil was signed on 30 November 1988. The treaty consolidated the process of nuclear rapprochement, cooperation, and integration between the two countries and declared the intention to gradually incorporate other countries from the region and the entire continent (OLIVEIRA, 1999, p. 385-386). As clarified by Candeas (2017, p. 244), the signing of this treaty allowed for a qualitative leap in

relations between Brazil and Argentina. The author also asserts that it represented the evolution of cooperation towards an effective intention of integration between the two countries.

A new declaration was signed in November 1990 in Foz do Iguaçu, between Presidents Fernando Collor and Raúl Menem, known as the Common Nuclear Policy Declaration between Brazil and Argentina or also the Declaration on Mutual Inspection. This declaration was also considered historical and an important milestone as it created a system of safeguards between the two countries. On this occasion, the joint system for accounting and control of nuclear material (SCCC) was created, providing for mutual technical inspections between the two countries. This event represented a substantial increase in the relationship between the two countries due to the possibility of mutual technical visits to the main nuclear facilities of both countries.

Vargas (1997, p. 52) emphasizes that the possibility of mutual technical inspections (or cross-inspections) was an important factor in building trust, as it put an end to the possibility of developing secret nuclear programs. For the author, the increased technical knowledge about the technologies developed in both countries and the transparency given to the nuclear issue contributed significantly to greater openness in bilateral relations, leading the two largest countries in Latin America to a deeper understanding in the nuclear field. Since Brazil and Argentina were the two most advanced countries in the nuclear field in Latin America, reciprocal visits to their respective facilities led to a change in each country's knowledge of the capabilities of the other. The practical consequence was a progressive transformation of Brazilian and Argentine interests.

### **1.3 The Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials Guaranteeing (ABACC)**

Moreover, to solidify the mutual inspection system, the Treaty for the Exclusively Peaceful Use of Nuclear Energy was signed on 18 July 1991. This agreement articulated the commitment of both nations to employ nuclear energy solely for peaceful objectives and established the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC). This agency would oversee the mutual control and inspections of nuclear facilities and materials in both countries (OLIVEIRA, 1999, p. 391).

In 1991, a nuclear safeguards agreement, commonly referred to as the Quadripartite Agreement, was signed at the International Atomic Energy Agency (IAEA) headquarters. This accord included not only Brazil and Argentina but also the IAEA and ABACC, placing their nuclear programs under international inspection and control. The collaboration among ABACC, IAEA, and the national authorities of both countries played a crucial role in meeting the commitments outlined in the agreements, presenting itself as an unparalleled model globally.

On the subject, Vargas (1997, p. 54) highlights that the nuclear rapprochement also served as a signal to the international community, especially to other countries in Latin America, that the relations between the two largest countries in the Southern Cone were entering a new phase. Gadano and Bianco (2016, p. 116) also understand this when pointing out the singularity of nuclear cooperation between Brazil and Argentina in the nuclear field.

The authors assert that this represents an unparalleled instance globally, wherein nations, while sustaining mutual competition at nearly military levels, abandoned their conflict hypotheses so profoundly, all without escalating to a conflagration.

An increased confidence between Brazil and Argentina has also allowed both countries greater international engagement in favor of nuclear non-proliferation and disarmament. The partnership with Argentina was crucial for Brazil's foreign policy and also for Latin American integration. In 1994, the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Tlatelolco Treaty), which had been signed by both Argentina and Brazil in 1967, came into effect for both nations.

Moreover, between 1994 and 1998, both countries signed and ratified the Treaty on the Non-Proliferation of Nuclear Weapons, overcoming over two decades of resistance to these important instruments. Saraiva and Almeida (1999) point out that the integration of their coordinated nuclear policies with an acceptance of prevalent international provisions on the nuclear issue in the external realm helped to consolidate Mercosur as a reliable international trade partner.

## **2. Brazil on regional and multilateral regimes: from the late participation in the Non Proliferation Treaty to the engagement since negotiations in the Prohibition of Nuclear Weapons**

A nuclear-weapon-free zone can be defined as an area typically established by a group of states through an international treaty. This treaty outlines a state of nuclear weapons absence and establishes a system of verification and control to ensure compliance. The establishment of nuclear-weapon-free zones constitutes a regional approach to strengthen global norms of nuclear non-proliferation and disarmament. It represents an initiative for the prohibition of nuclear weapons in specific regions, thereby contributing to the overarching goal of nuclear disarmament.

### **2.1 The Nuclear Weapon Free-Zone in Latin America**

The Treaty of Tlatelolco includes all 33 Latin American and Caribbean countries as parties. Under this treaty, they commit to using nuclear material and facilities under their control exclusively for peaceful objectives. Furthermore, they pledge to proactively prohibit and prevent any form of testing, use, manufacture, production, or acquisition of nuclear weapons within their respective territories. The preamble of the Treaty mentions the catastrophic humanitarian effects of nuclear weapons, as well as the impossibility of discriminating between civilian populations and military forces, a fundamental principle of International Humanitarian Law (OPANAL, 2023a).

With this treaty, Latin America and the Caribbean became pioneering regions in placing limits on the nuclear arms race, as this treaty was the first of its kind to designate a nuclear-weapon-free zone in a densely populated region<sup>1</sup>. Negotiations started in 1964 in Mexico City

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<sup>1</sup> Taking into consideration that the first treaty to establish a nuclear-weapon-free zone was the Antarctic Treaty of 1959, therefore, in an uninhabited zone.

and concluded in 1967 with the signature of the Treaty, which entered in full force for its Latin American and Caribbean parties in 2002 (OPANAL, 2023a).

Article 1 defines the main objectives of the Treaty, declaring the decision of the states to use nuclear energy exclusively for peaceful purposes and renouncing the option of war. Furthermore, it establishes the obligation of member states to refrain from conducting, encouraging, or authorizing the testing, use, manufacture, production, possession, or control of any nuclear weapon. The mentioned treaty includes two additional protocols, resulting from Brazilian proposals during the negotiations, with the aim of broadening the support of the international community, especially the nuclear-armed countries, for the emerging treaty being formulated in Latin America.

Protocol I applies to states with territories in the Tlatelolco Treaty's Area of Application, committing to denuclearization. It is ratified by the United States, France, the Netherlands, and the United Kingdom. Protocol II is for nuclear-armed states, pledging not to contribute to violations in the Tlatelolco Treaty's territories and not to use nuclear weapons. It is ratified by China, the United States, France, the United Kingdom, and Russia, with North Korea, India, Israel, and Pakistan yet to ratify (OPANAL, 2023b).

The starting point for the efforts that led to the military denuclearization of Latin America can be considered the Joint Declaration, made public on April 29, 1963, by five Latin American Presidents. This initiative was led by the Mexican President Adolfo López Mateos, who, on March 21 of the same year, sent letters to the Presidents of Bolivia (Víctor Paz Estenssoro), Brazil (João Goulart), Chile (Jorge Alessandri), and Ecuador (Carlos Julio Arosemena). The declaration invited these Presidents to jointly make a statement expressing their willingness to sign a multilateral agreement with other Latin American countries, committing not to manufacture, receive, store, or test nuclear weapons or nuclear delivery devices (OPANAL, 2023c).

At this point it is important to clarify that, between 1961 and 1964, Brazil prioritized international disarmament in its diplomatic efforts, a key component of what the government termed as 'Independent Foreign Policy'. In the closing months of this period, characterized by a military coup leading to the overthrow of the democratic government, the Brazilian Foreign Minister, Araújo Castro<sup>2</sup>, declared on the occasion of the opening of the XVIII session of the United Nations General Assembly (UNGA) that disarmament, development, and decolonization were the foremost objectives of Brazil's foreign policy (PATTI, 2021, p.50).

As clarified by Duarte (2017), differences in approach emerged during the drafting of the Treaty. The Argentine perspective was primarily concerned with distinguishing between the peaceful and non-peaceful aspects of a nuclear weapon-free zone in Latin America. This distinction was also significant for Brazil, particularly following the establishment of the military government on March 31, 1964. Both countries aimed to explicitly maintain the right to develop and use all aspects of nuclear energy, including the sensitive matter of nuclear explosions for peaceful purposes. On the other hand, Mexico and others advocated for the swift adoption of a broader prohibition that would not allow for the development of explosive technology. For Brazil and Argentina, a ban on peaceful nuclear explosions was viewed as

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<sup>2</sup> In his speech at the UNGA, Araújo Castro indicated that disarmament — especially nuclear disarmament — was an imperative for international security, considering that the struggle for disarmament is the very struggle for peace and for the legal equality of states striving to go beyond the limits of fear or intimidation (CASTRO, 1963).



unwarranted interference in their sovereign rights, potentially limiting their access to a crucial facet of nuclear technology (DUARTE, 2017, p.7).

This issue was resolved by adding a specific definition of nuclear weapon in the Treaty to distinguish it from an explosive device. In addition, the requirements for what would be considered an explosion for peaceful purposes were specified. The debate extended to the entry-into-force mechanism of the Treaty, resulting in an innovative approach. According to this, the Treaty would only come into effect when specific conditions were met, but signatories had the option to waive these conditions. Brazil signed the Tlatelolco Treaty in May, 1967 but only opted to waive the conditions in 1994, following similar actions by Argentina and Chile (DUARTE, 2017, p. 8).

As observed, the nuclear weapons dilemma involves a complex interplay of international political dynamics. Beyond prohibiting their existence in specific regions and continents, it also encompasses a combination of legal and diplomatic facets that play distinct roles, such as curbing proliferation, reducing weapon quantities, banning nuclear tests, and regulating the use of nuclear energy by different countries.

## **2.2 The Brazilian participation in Non Proliferation Treaty**

In this regard, it's important to also highlight that Brazil is also a participant in the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which endeavors to prohibit all nuclear explosions, be they for military or peaceful purposes. Brazil deposited its instrument of ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) with the Secretary-General of the United Nations on 24 July 1998. Brazil is the sixteenth signatory State to have ratified the Treaty and one of the 44 countries listed in the Treaty whose ratification is necessary for its entry into force (CTBTO, 2023).

In the multilateral perspective, the most important international treaty addressing the issue is the Treaty on the Non-Proliferation of Nuclear Weapons, in force since the 1970s of the 20th century. Often referred to as the 'cornerstone' or central piece of the nuclear non-proliferation and disarmament regime, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was adopted during the height of the Cold War. The treaty was open for signatures on July 1, 1968, and entered into force on March 5, 1970. The NPT largely emerged as a response to the growing fear that the nuclear arms race was spiraling out of control and that nuclear weapons would spread to more countries, making the world less secure and increasing the likelihood of some form of nuclear use.

The NPT boasts nearly<sup>3</sup> universal adherence, with 191 countries as party to the treaty (UNODA, 2023b). Although open for signatures in 1968, the treaty came into effect for Brazil only on 18 September 1998. To this day, it remains the foundation of the international nuclear non-proliferation regime. In this context, it's noteworthy to mention the insight provided by Duarte (2016, p. 105), who argues that numerous countries perceive the NPT as discriminatory because it establishes differing privileges and obligations between nations with nuclear weapons and those without.

In summary, the NPT Treaty can be understood through three main pillars: non-proliferation, the peaceful use of nuclear energy, and commitment to nuclear disarmament. In

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<sup>3</sup> Only four countries do not belong to it: Democratic People's Republic of Korea, Israel, India and Pakistan.

this context, Articles I and II constitute the core of the Treaty and establish obligations for non-proliferation, as well as a prohibition on the transfer of nuclear weapons. Meanwhile, Articles III, IV, and V reflect the so-called ‘second pillar’ of the NPT, establishing safeguards rules and the right to the peaceful use of nuclear energy. These provisions aim to ensure that peaceful uses and the production of nuclear energy will not be diverted to non-peaceful purposes. The article links security safeguards to export controls, requiring the application of assurances from the International Atomic Energy Agency (IAEA) for nuclear exports to non-nuclear-armed states.

The third pillar of the Treaty is based on the commitment to nuclear disarmament outlined in Article VI<sup>4</sup>, which stipulates that each State Party undertakes ‘to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.’ However, the disposition still has not been honored by nuclear-armed states (NYSTUEN, HUGO, 2014, 386-92).

The NPT has consistently been regarded by many scholars as the central or, at the very least, the most widely embraced mechanism in the non-proliferation regime. While the NPT played a crucial role in curbing nuclear weapon proliferation, particularly during the Cold War, a significant criticism is that it legitimizes recognized nuclear-armed states to maintain and deploy nuclear weapons without providing effective mechanisms for reducing arsenals or achieving disarmament. Moreover, the NPT placed more emphasis on non-proliferation and counter-proliferation efforts than on genuine nuclear disarmament (BATISTA, 2023, p. 68-9).

### **2.3 The Treaty on The Prohibition of Nuclear Weapons: accession and pending ratification**

Despite numerous efforts on bilateral, regional and multilateral fronts, it is imperative to recognize that the consequences of both accidental and intentional detonation of nuclear weapons extend beyond national borders, posing potential harm on a global scale. Therefore, it is essential to focus on governance initiatives at a universal level to regulate and prohibit nuclear weapons. This concern has persistently resonated in the international community. Despite various attempts, the intricate political and strategic complexities surrounding this issue have historically retarded progress on a global scale.

Until the emergence of the Treaty on the Prohibition of Nuclear Weapons (TPNW) in 2017, there was no international legal framework comprehensively and universally banning nuclear weapons. Unlike other regimes that employed a more strategic approach, the TPNW was negotiated with a focus on the humanitarian impact of nuclear weapons. In this context, the TPNW addresses a legal gap in international law, lacking an explicit prohibition on nuclear weapons. The introduction of the TPNW led to the recognition of the International Campaign for the Abolition of Nuclear Weapons (ICAN), a prominent player in global civil society, for

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<sup>4</sup>in the advisory opinion of July 8, 1996, on the ‘legality of the threat or use of nuclear weapons’, the International Court of Justice reaffirmed the position that Article VI of the NPT is not a vague provision and reflects an obligation to pursue and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects (ICJ, 1996).

its efforts in mobilizing public opinion and influencing political decisions. Consequently, ICAN was awarded the Nobel Peace Prize in 2017 (VIEIRA, BATISTA, 2020, p.57).

The perspective advocated by the TNPW, which calls for a comprehensive ban on nuclear weapons due to the catastrophic humanitarian impact they pose to humanity, differs significantly from an approach primarily focused on the control and non-proliferation of these weapons. The latter approach assumes that nuclear weapons are still necessary for international security and, therefore, are considered legitimate. In this context, it is important to highlight that a treaty promoting prohibition explicitly opposes a security scenario wherein the importance of nuclear weapons persists and continues to grow. Despite a reduction in the number of nuclear weapons following the end of the Cold War, the five acknowledged nuclear-armed states (NWS) have not ceased their pursuit of nuclear armaments, contrary to their commitments under the NPT. They are actively modernizing nuclear weapons, participating in an arms race involving missiles, missile defense systems, space weaponry, cyber warfare, and conventional arms.

The TPNW was adopted on 7 July 2017, at a diplomatic conference established by the United Nations General Assembly. The treaty establishes comprehensive and explicit prohibitions regarding nuclear weapons. It specifies that each State Party commits to never, under any circumstances, engage in activities such as developing, testing, producing, manufacturing, acquiring, possessing, storing, transferring, receiving control of, using, or threatening to use nuclear weapons or other nuclear explosive devices. Additionally, States Parties are prohibited from assisting, encouraging, or inducing others in any way to undertake activities prohibited by the Treaty, or from seeking or receiving such assistance. Furthermore, any form of stationing, installation, or use of nuclear weapons or other nuclear explosive devices is expressly forbidden. These prohibitions are outlined in the treaty's inaugural article (BATISTA, 2023, p.85-6).

Beyond the prohibitions, the Treaty proposes verifiable mechanisms for the effective elimination of nuclear weapons that States may possess upon joining the Treaty. In the humanitarian and environmental sphere, there are also significant innovations. Article 6 of the Treaty establishes obligations to provide assistance to victims and to take measures for environmental remediation of contaminated areas if a State Party has individuals or areas under its jurisdiction or control that are affected by the testing or use of nuclear weapons (BATISTA, 2023, p. 86-94)

Brazil actively supported and took part in the Treaty negotiation process, contributing as a member of the core group of countries involved in the discussions for the TPNW at the UN. The main group, which led the negotiation process, consisted mainly of small and medium-sized states: Austria, Brazil, Ireland, Mexico, New Zealand, and South Africa (DOCHERTY, 2018, p.12) . A total of 122 states voted in favor of the adoption of the Treaty. The international document was open for signature on September 20, 2017, and currently has 93 signatories and 69 ratifications. The Treaty was opened for signature on September 20, 2017 and it entered into force on January 22, 2021, upon ratification by the 50th state (ICAN, 2023).

It's worth mentioning that Brazil holds the distinction of being the first country to sign the Treaty. Michel Temer, who was the president of Brazil at the time, endorsed the Treaty on the Prohibition of Nuclear Weapons (TPNW) during a ceremony in New York on September 20, 2017. Since the TPNW came into force in 2021, the treaty is currently undergoing

consideration for ratification by the Brazilian National Congress. The submission to the congress took place in 2018. In May 2023, during a speech in Hiroshima, President Luiz Inácio Lula da Silva underscored the persistent threat of nuclear weapons. He emphasized Brazil's active participation in the negotiations of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and expressed optimism about its forthcoming ratification (ICAN, 2023).

### **3. Conclusions**

What if Brazil had persisted to become a nuclear state, developing and storing nuclear weapons? The bilateral tensions with Argentina would have other history, and the bilateral trust building that paved ways to regional integration through MERCOSUR probably wouldn't have achieved the contemporary stage – regional integration that represents strategic geopolitical gains in commerce, logistics and infrastructure, security and national development. Besides that, Brazil should have spent billions of dollars in developing and storing nuclear weapons that wouldn't represent more or better security – money that could be spent in national development and poverty reduction.

Brazil's foreign policy action aims to uphold the primacy of international norms and institutions in guiding state activities. The Brazilian perspective on global security emphasizes the pursuit of enduring peace institutions that foster both peace and the adherence to the rule of law.

Considering the immense destruction and incalculable humanitarian effects that these weapons are capable of producing, every concrete step the international community takes toward the proscription or strict control should be considered important in the nuclear weapons disarmament agenda. Despite the series of initiatives at the bilateral and regional level, it is necessary to consider that the effects of any accidental or intentional detonation of a nuclear weapon cross national borders, having harmful potential on a global scale. For this same reason, governance efforts at a universal level to control and ban nuclear weapons are essential.

The controversial and critical strategic decisions made in the 1980's proved the existence of a great paradox in the dialectics among weapons race and disarmament views. The paradox is that the Brazilian itinerary on nuclear disarmament built better conditions for international security and for national prosperity.

### **REFERENCES**

- ABACC. Agência Brasileiro- Argentina de Controle e Contabilidade de Materiais Nucleares: Relatório Anual, 1993. Rio de Janeiro: ABACC, 1993.
- BATISTA, Rafael Euclides Seidel. O Tratado sobre a Proibição de Armas Nucleares: inovações e desafios para o desarmamento nuclear. Curitiba: Appris, 2023.
- ARGENTINA; BRASIL. Ata para a Integração Brasileiro- Argentina. Buenos Aires, 29 de julho de 1986. Available at <<https://www.abacc.org.br/wp-content/uploads/2016/09/Ata-para-integra%C3%A7%C3%A3o-brasileiro-argentina-portugu%C3%AAs-assinada.pdf>>. Accessed on 27 november 2023
- ARGENTINA; BRASIL. Acordo de Cooperação para o Desenvolvimento e a Aplicação dos Usos Pacíficos da Energia Nuclear entre o Governo da República Federativa do Brasil e o Governo da República Argentina. Buenos Aires, 17 de maio de 1980. Available at

- <<https://www.abacc.org.br/wp-content/uploads/2016/09/Acordo-de-Coopera%C3%A7%C3%A3o-entre-Brasil-e-Argentina-para-Usos-Pac%C3%ADficos-da-Energia-Nuclear.pdf>>. Accessed on 28 november 2023.
- ARGENTINA; BRASIL. Declaração de Viedma. Viedma, 17 de julho de 1987. Available at: <<https://www.abacc.org.br/wp-content/uploads/2016/09/Declara%C3%A7%C3%A3o-de-Viedma-Declara%C3%A7%C3%A3o-conjunta-sobre-Pol%C3%ADtica-Nuclear-portugu%C3%AAs-assinada.pdf>>. Accessed on 27 november 2023.
- BRASIL; ARGENTINA. Tratado de Integração, Cooperação e Desenvolvimento entre a República Federativa do Brasil e a República Argentina, 29 de novembro de 1988. Available at <[http://www.planalto.gov.br/ccivil\\_03/decreto/1980-1989/D98177.htm](http://www.planalto.gov.br/ccivil_03/decreto/1980-1989/D98177.htm)>. Accessed on 28 november 2023.
- BRASIL; ARGENTINA. Acordo entre a República Federativa do Brasil, A República Argentina, a Agência Brasileiro-Argentina de Contabilidade e Controle de Materiais Nucleares (ABACC) e a Agência Internacional de Energia Atômica (AIEA) para Aplicação de Salvaguardas. Viena, 13 de dezembro de 1991. Available at <<http://fissilematerials.org/library/inf435.pdf>>. Accessed on 29 november 2023.
- BRASIL; ARGENTINA. Declaração Conjunta sobre Política Nuclear. Foz do Iguaçu, 30 de novembro de 1985. Available at: <<https://www.abacc.org.br/wp-content/uploads/2016/10/1985-Declara%C3%A7%C3%A3o-conjunta-sobre-Pol%C3%ADtica-Nuclear-portugu%C3%AAs.pdf>> Accessed on 27 november 2023.
- BRASIL; ARGENTINA. Declaração de Iguaçu. Foz do Iguaçu, 30 de novembro de 1985. Available at: <<https://www.abacc.org.br/wp-content/uploads/2016/09/1985-Declara%C3%A7%C3%A3o-do-Igua%C3%A7u-espanhol-assinada.pdf>> Accessed on 28 november 2023.
- BRASIL; ARGENTINA. Declaração de Iperó. Iperó, 08 de abril de 1988. Available at: <<https://www.abacc.org.br/wp-content/uploads/2016/09/Declara%C3%A7%C3%A3o-de-Iper%C3%B3-portugu%C3%AAs.pdf>>. Accessed on 28 november 2023.
- BRASIL; ARGENTINA. Declaração sobre Política Nuclear Comum Brasileiro-Argentina. Foz do Iguaçu, 30 de novembro de 1990. Available at <<https://www.abacc.org.br/wp-content/uploads/2016/09/Declara%C3%A7%C3%A3o-de-Pol%C3%ADtica-Nuclear-Comum-portugu%C3%AAs.pdf>>. Accessed on 28 november 2023.
- BRASIL et al. Acordo Tripartite de Cooperação Técnico-Operativa. Cidade de Presidente Stroessner, 19 de outubro de 1979. Available at <<http://docvirt.com/docreader.net/docreader.aspx?bib=DPREG&pasta=EG%20dpr%201979.10.19>>. Accessed on 29 november 2023.
- CANÇADO TRINDADE, Antônio Augusto. A obrigação universal de desarmamento nuclear. Brasília: Funag, 2017(a).
- CANDEAS, Alessandro Warley. Relações Brasil-Argentina: uma análise dos avanços e recuos. Revista Brasileira de Política Internacional, nº 48, 2005.
- CANDEAS, Alessandro. A integração Brasil-Argentina: história de uma ideia na ‘visão do outro’. Brasília: FUNAG, 2017.

- CASTRO, João Augusto de Araújo. XVIII Regular Session of the General Assembly of the United Nations, 1963. In: CORRÊA, Luiz Felipe de Seixas. Brazil in the United Nations 1946-2011. Brasília: Funag, 2013. p. 233-252
- Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). Brazil ratifies the CTBTO. 2023. Available at <<https://www.ctbto.org/resources/for-the-media/press-releases/brazil-ratifies-ctbt>>. Accessed on 29 november 2023.
- DOCHERTY, Bonnie. A 'light for all humanity': the threat on the prohibition of nuclear weapons and the progress of humanitarian disarmament. *Pacifica Review: Peace, Security & Global Change*, 2018. Available at <<https://doi.org/10.1080/14781158.2018.1472075>> Accessed on 30 november 2023.
- DUARTE, Sérgio de Queiroz. Desarmamento Nuclear. *Cadernos de Política Exterior*, v. 3, p. 93-119, 2016. Available at <[http://funag.gov.br/biblioteca/download/1161-CADERNOS-DO-IPRI-N-3\\_30\\_08.pdf](http://funag.gov.br/biblioteca/download/1161-CADERNOS-DO-IPRI-N-3_30_08.pdf)>. Accessed on 26 november 2023
- DUARTE, Sérgio de Queiroz. The role of Brazil in multilateral disarmament efforts. *Revista Brasileira de Política Internacional*, 2017. Available at <<https://www.scielo.br/j/rbpi/a/BFX9J37TDQHd5CS9yCYmR6G/?lang=en>>. Accessed on 26 november 2023.
- FEDERATION OF AMERICAN SCIENTISTS (FAS). Status of world nuclear forces. FAS. Washington, DC, 2020. Available at <<https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>>. Accessed on 28 november 2023.
- FUTTER, Andrew. *The Politics of Nuclear Weapons*. Palgrave Macmillan, 2021.
- GADANO, Julián; BIANCO, Belén. La Cooperación como Modelo de Desarrollo Autónomo Legítimo: Los casos de Brasil y Argentina. In: CANTO, Odilon Antonio Marcuzzo (Org). *O Modelo ABACC: um marco no desenvolvimento das relações entre Brasil e Argentina*. Santa Maria: Ed. UFSM, 2016.
- INTERNATIONAL CAMPAIGN TO ABOLISH NUCLEAR WEAPONS (ICAN). Brazil. Available at: <<https://www.icanw.org/brazil>>. Accessed on 28 november 2023.
- INTERNATIONAL COURT OF JUSTICE (ICJ). Legality of the Threat or use of Nuclear Weapons. Haia, 1996. Available at <<https://www.icj-cij.org/files/case-related/95/095-19960708-ADV-01-00-EN.pdf>>. Accessed on 28 november 2023
- MENDOZA, Diego Hurtado. De 'átomos para la paz' a los reactores de potencia. *Tecnología y política nuclear en la Argentina ( 1955- 1976)*. *Revista CTS*, nº 4, vol. 2, janeiro de 2005.
- NYSTUEN, Gro; HUGO, Tørbjorn Graff. The Nuclear Non-Proliferation Treaty. In: NYSTUEN, Gro; CASEY-MASLEN, Stuart; BERSAGEL, Annie Golden (ed.). *Nuclear weapons under international law*. Cambridge, UK: Cambridge University, 2014. p. 374.
- OLIVEIRA, Odete Maria de. *A Integração Nuclear Brasil-Argentina: uma estratégia compartilhada*. Florianópolis: Ed. da UFSC, 1996.
- OLIVEIRA, Odete Maria de. *Os descaminhos do Brasil Nuclear*. Ijuí: Ed. Unjuí, 1999.
- OPANAL. Preguntas Frecuentes. 2023a. Available at <<http://www.opanal.org/preguntas-frecuentes/>>. Accessed on 29 november 2023
- OPANAL. Protocolos adicionales. 2023b. Available at <<https://www.opanal.org/protocolos-adicionales/>>. Acesso em 16 abr. 2021. Accessed on 29 november 2023.

- OPANAL. História. 2023c. Available at <<https://opanal.org/historia/>>. Accessed on 29 november 2023.
- ORGANIZAÇÃO DAS NAÇÕES UNIDAS (ONU). Tratado para a Proibição de Armas Nucleares na América Latina e o Caribe (Tratado de Tlatelolco). Cidade do México, 1967. Available at <<https://www.iaea.org/publications/documents/treaties/treaty-prohibition-nuclear-weapons-latin-america-tlatelolco-treaty>>. Accessed on 28 november 2023.
- ORGANIZAÇÃO DAS NAÇÕES UNIDAS (ONU). Treaty on the Prohibition of Nuclear Weapons. New York, 2017. Available at <https://undocs.org/A/CONF.229/2017/8>. Accessed on 28 november 2023.
- PATTI, Carlo. As Origens Esquecidas da ABACC? A proposta Findley para estabelecer um sistema de confiança mútua entre Brasil e Argentina na área nuclear (1977). In: CANTO, Odilon Antonio Marcuzzo (Org). O Modelo ABACC: um marco no desenvolvimento das relações entre Brasil e Argentina. Santa Maria: Ed. UFSM, 2016.
- PATTI, Carlo. Brazil in the global nuclear order, 1945-2018. Baltimore: John Hopkins University, 2021.
- QUEIROZ, João Marcelo Galvão. O Modelo ABACC: Um balanço. In: CANTO, Odilon Antonio Marcuzzo (Org). O Modelo ABACC: um marco no desenvolvimento das relações entre Brasil e Argentina. Santa Maria: Ed. UFSM, 2016.
- SARAIVA, Miriam Gomes; ALMEIDA, Fernando Roberto de Freitas. A integração Brasil-Argentina no final dos anos 90. *Revista Brasileira de Política Internacional*, nº 42, pp 18-39, 1999.
- SARAIVA, Miriam Gomes; TEDESCO, Laura. Argentina e Brasil: políticas exteriores comparadas depois da Guerra Fria. *Revista Brasileira de Política Internacional*, nº 44, pp. 126-150, 2001.
- SEIXAS, Luiz Felipe. Brazil in the United Nations 1946-2011. Brasília: Funag, 2013. p. 233-252
- STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI). World nuclear forces. In: STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI). *Sipri yearbook 2023: armaments, disarmament and international security*. Available at <https://www.sipri.org/yearbook/2023/07>. Accessed on 28 november 2023.
- UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS (UNODA). Treaty on the Non-Proliferation of Nuclear Weapons. 2023a. Available at <https://www.un.org/disarmament/wmd/nuclear/tpnw/>. Accessed on 29 november 2023.
- UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS (UNODA). Treaty on the Non-Proliferation of Nuclear Weapons (NPT). 2023b. Available at: <https://disarmament.unoda.org/wmd/nuclear/npt/#:~:text=A%20total%20of%20191%20States,the%20five%20nuclear-weapon%20States>. Accessed on 29 november 2023.
- VARGAS, Everton Vieira. Átomos na integração: a aproximação Brasil-Argentina no campo nuclear e a construção do Mercosul. *Revista Brasileira de Política Internacional* (online), 1997, vol. 40, nº1, pp-41-74.

VIEIRA, Gustavo Oliveira, BATISTA, Rafael Euclides Seidel. 2020. O (novo) Tratado sobre a Proibição de Armas Nucleares: inovações normativas com desafios históricos. In *Direito Internacional em Expansão*, organized by Wagner Menezes, V.XIX, 56-74. Belo Horizonte: Arraes.