

THE NEW BRAZILIAN SPACE: AMAZÔNIA AZUL AND ITS IMPLICATIONS

O NOVO ESPAÇO BRASILEIRO: AMAZÔNIA AZUL E SUAS IMPLICAÇÕES

MARIANNE L. WIESEBRON
Leiden University, Faculty of Humanities, Leiden, Netherlands

ABSTRACT: A Brazilian Admiral coined the concept *Amazônia Azul* or Blue Amazon, to draw attention to the incredible size of the country's jurisdictional waters and to all the resources they contain, living, mineral including offshore oil and gas. These waters represent nearly 4.5 million km², which equals over 50% of the country's land surface. However, to create this space with this enormous size, the Brazilian Interministerial Commission for Sea Resources (CIRM), coordinated by the Navy, had to be quite ingenious to follow the rules of the United Nations Convention on the Law of the Sea (UNCLOS). This article studies first the establishment of the space *Amazônia Azul*, then how this space is being developed in a sustainable way, and how its defence is being set up. The policies of defence created by the Lula Government are also quite innovative, and, in particular, the technology transfer with strategic military partners warrants special attention.

KEYWORDS: *Amazônia Azul*; UNCLOS; sustainable development; Navy; defence; CIRM.

RESUMO: *Um almirante brasileiro cunhou o conceito "Amazônia Azul" a fim de chamar a atenção para o incrível tamanho das águas jurisdicionais do país e para todos os recursos vivos, minerais, petróleo e gás natural que elas contêm. Essas águas representam cerca de 4,5 milhões de km², o que equivale a mais de 50% da superfície terrestre do país. No entanto, para criar esse espaço de enorme tamanho, a Comissão Interministerial Brasileira de Recursos Marinhos (CIRM), coordenada pela Marinha, teve de ser bastante engenhosa para seguir as regras da Convenção das Nações Unidas sobre o Direito do Mar (CNUDM). Primeiramente, este artigo estuda o estabelecimento do espaço *Amazônia Azul* e, em seguida, o modo como esse espaço está sendo desenvolvido de forma sustentável e como sua defesa está sendo montada. As políticas de defesa criadas durante o governo Lula também são bastante inovadoras e, em particular, a transferência de tecnologia com parceiros estratégicos militares merece atenção especial.*

PALAVRAS-CHAVE: *Amazônia Azul*; CNUDM; desenvolvimento sustentável; Marinha; defesa; CIRM.

The seas and oceans were the “great forgotten” of the 20th century. Now, as we enter the 21st century, it is the sea that will save the earth. (BORLOO, 2009).

INTRODUCTION

In 2004, to draw attention to the importance of the Brazilian jurisdictional waters, their size and their multiple extraordinary resources, Admiral Roberto de Guimarães Carvalho, the then Commander of the Navy, coined that space: *Amazônia Azul*, or Blue Amazon, in an article published in the *Folha de São Paulo*, on the 25th of February 2004 (CARVALHO, 2004). In 2010, this concept became an officially registered trademark by the Navy. Even so, this space, which is extremely important for Brazil, is still little known.

Meanwhile, the Navy heads the Interministerial Commission for Sea Resources (*Comissão Interministerial para os Recursos do Mar – CIRM*) and as such coordinates matters related to delineate the limits of this space. In so doing, CIRM has to plan how to use the rules of the United Nations Convention on the Law of the Sea (UNCLOS) to set up the best and broadest maritime space for Brazil. While the borders are being established, CIRM is also planning the National Policy for Resources of the Sea (*Política Nacional para os Recursos do Mar – PNRM*).

The aim is to foster the development of this space in cooperation not only with other ministries but also with universities and research centres. Furthermore, the Navy also plays a foremost role, in conjunction with the other armed forces, in setting up a system of protection of this space from foreign intervention. After setting the historical context of the Blue Amazon, this article will analyse three different objectives: delineating this new space and its implications, such as planning and developing the National Policy for Resources of the Sea. Another major issue is how to protect the Brazilian jurisdictional waters and the resources they contain. This has led the Lula Government to develop a completely new defence concept.

THE DEVELOPMENT OF THE NEW SPACE AMAZÔNIA AZUL IN A HISTORICAL PERSPECTIVE

Brazil, with almost 7500 kilometres of Atlantic coastline¹ is a country directly concerned by developments related to the Atlantic Ocean. Thanks to the archipelagos of São Pedro e São Paulo and Trindade e Martim Vaz, mainly the first one, Brazil's border advances substantially towards Africa. The São Pedro e São Paulo archipelago lies 1100 km from the nearest point of the Brazilian Coast and 1824 km from the African coast (VIANA *et al.*, 2009; WIESEBRON, 2013).

In the last few years the Atlantic Ocean, which since the beginning of colonization played a key role for Brazil, has become even more crucial to the country due to the different resources that are located in its Exclusive Economic Zone (EEZ) and in its Continental Shelf (CS). In 1982, these concepts were defined by the United Nations Convention on the Law of the Sea (UNCLOS), which will be detailed later, and became crucial after the discovery of huge deposits of oil and gas in the deep ocean. (MARTINS, 2010; ASSAD, 2010). These are not the only resources found

¹ The length of Brazil's coastline ranks the country 15th in the world. However, the calculation of coastlines is extremely difficult and varies a lot according to the system employed. In the European Union there is an attempt at harmonisation, as the method of calculation can have an impact, for instance, on fish quota (LOUVART, 2013).

in the sea. In the Brazilian waters, there are quite some living resources and an immense variety of mineral resources. Many of these resources have been mapped and can be exploited nowadays in an economically viable way, which is a recent development (CAROLI, 2010).

However, although 26% of the Brazilian population of over 200 million inhabitants lives directly along the coastline, and 70% lives up to 200 kilometres from the coast, the country looks inwards and not to the sea, and, in consequence, the importance of the Ocean has not yet taken root in Brazil. The space considered crucial has been the continental territory of Brazil. The reasons why will be studied briefly before going back to the Atlantic Ocean. Especially during the twentieth century, the main concern of successive governments was ensuring the settlement, economic and strategic occupation of the territory within its continental dimensions of 8.515.767,049 km², the 5th in surface area of the world. The objectives were manifold: to reduce the very unequal development between the Brazilian regions, the North-East with a large and poor population and an underdeveloped economy, while foremost São Paulo but also Rio de Janeiro, were industrial hothouses (ARAÚJO, 1999).

Internal migration should not only go to these metropolises but also westward to increase economic development and population density in parts of Brazil that were hardly inhabited or developed. Another goal has been to be able to better defend the land boundaries of the country. The decision to build a new capital city in the centre of the country, Brasília, inaugurated in 1960, was an emblematic expression of the strategy to go inland. This had an economic impact and led to the establishment of considerable infrastructure, which started from Brasília, such as the highways “Brasília-Belem; Brasília-Belo Horizonte; Brasília-São Paulo; Brasília-Cuiabá; Brasília-Barreiras, and from these new highways, quite a number of other roads were built”. This certainly opened the country. (DINIZ, 2001).

The construction of a road network has also made the settlement of the Amazon a reality, although the population density remains very low, as the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* – IBGE) data makes quite clear. The North Region, where the Amazon is located, has a density of 4.12 inhabitants per km², while the South-East Region, where São Paulo and Rio de Janeiro are located, has the highest density, namely 86,92 inhabitants per km². According to the census of 2010, for the whole of Brazil the average is 22.43 inhabitants per km², which is low in a world context, but more or less equivalent to the South American average (IBGE, 2010).

The Government wanted systematic settlement in the Amazon, with a surface area of over 4 million km², as incidental settlement goes back a long way. The Amazon, also coined Green Amazon in contrast to the Blue Amazon, has the most enormous biodiversity of the world, as it is home to the biggest tropical rainforest, with a unique fauna and flora. Besides impressive living resources, plants and animals, it also has extraordinary traditional resources, such as gold and iron ore, and rare mineral resources. These traditional resources, in particular gold, have always drawn a lot of attention, going from small gold-diggers, known as *garimpeiros*, to big national and multinational companies (SANTOS, 2002).

The preoccupation with the development of continental Brazil can also be seen in the maps depicting the country. For a long time maps only showed the surface area and never the Brazilian islands and archipelago's. Only recently one official map made

by the IBGE, responsible for the official cartography, also included an outline of the Brazilian jurisdictional waters and dots for the islands (IBGE, 2009). But most maps made by IBGE and others, still only show Brazil's land mass. It would be unthinkable that any Argentinean map is produced without the Malvinas islands. Of course, there is a political logic for this case, but even so...

Meanwhile, in the beginning of the 21st century, the Brazilian government's move westward continued with the establishment of the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA). This Initiative started in Brasilia in 2000 aiming at achieving the physical integration of all the 12 South American countries, including Surinam and Guyana (COUTO, 2006). The deficit in physical integration is a big obstacle in furthering the process of regional integration, to increase economic and social development in this region. Physical integration was also an objective in Europe to reduce the disadvantages of poorer or lesser developed regions (ROBERTS, 2003).

The objective of IIRSA is to promote sustainable development through the implementation of infrastructure for transport, energy and communications. This project has been strengthened with the Union of South American Nations, established in 2004 and consolidated in 2008. IIRSA became one of the pillars for regional integration, within the South-American Council for Infrastructure and Planning (*Conselho Sul-americano de Infraestrutura e Planejamento – Cosiplan*), set up in 2009 (COSTA; GONZALEZ, 2010).

Amongst the many planned axes, two are of great interest for the focus on the Atlantic Ocean, namely the two interoceanic axes, linking the Pacific to the Atlantic Ocean. The idea of linking both oceans exists already quite some time. In fact, these kind of projects started already in colonial times, where the territory between both oceans is smallest, around what is now Panama. Spain needed to link its colonial territory in the most efficient manner, within the possibilities at that time. In the nineteenth century the French started with the construction of the Panama Canal, finished in 1914 by the Americans, which led to an independent Panama and a country divided not only by the Canal, but also by the Canal Zone, considered American territory (JOHNSON, 1903; AMERINGER, 1966).

Already in 1935, for Mario Travassos, a Brazilian specialist in geopolitics, the American presence through the Panama Canal, near Colombia and the Caribbean, and the rivalry with Argentina, made it imperative for Brazil to reach and integrate the Pacific coast and to invest in a bi-oceanic connection (PADULA; FIORI, 2016).

Under President Lula the Pacific became part of Brazil's strategic surrounding, besides obviously the Atlantic and also Antarctica. This was defined in two innovative strategic documents, approved by the national Congress, the National Defence Policy (*Política Nacional de Defesa – PND*) of 2005 and the National Defence Strategy (*Estratégia Nacional de Defesa – END*) of 2008, consolidated in 2012 (BRASIL, 2005b; 2008; PADULA; FIORI, 2016). This is a total departure from Fernando Henrique Cardoso's National Defence Policy who stated that Brazil was surrounded by a "true circle of peace", formed by south-south treaties and forms of cooperation and therefore did not need to invest in defence (BRASIL, 1996, art. 2.10).

Thanks to IIRSA, the link from Brazil to the Pacific, by road through Peru, became a reality in 2008, making transport from Brazil to China considerably shorter and cheaper, crucially important as China has become the foremost Brazilian trade

partner. Now the interoceanic challenge is the Central Interoceanic axis, linking the Brazilian south-east, Paraguay, Bolivia, the north of Chile and the south of Peru, through roads, railroads and harbours, etc. This axis will also be connected to the Capricorn axis, joining the north of Argentina, Bolivia, the south of Brazil and Chile, again through various forms of infrastructure. The construction of these connections poses quite a number of challenges and one in particular, namely the Andean cordillera, an enormous natural barrier. But it is also considered a priority as improving communication between both oceans is considered an enormous boost for the economy, tourism, etc. of Brazil and other countries, Bolivia in particular. These two axes would create an access for Bolivia to both the Pacific – access it lost as result of the War of the Pacific (1879-1883) — and Atlantic Oceans (NUMAIR, 2009; IIRSA, 2009; SOUZA, 2011; DESIDERÁ NETO, 2014). Physical infrastructure certainly fosters integration and it is a way to use land space to integrate maritime space.

It is quite clear that territorial land planning has been a major focus of Brazilian governments, but the planning the Brazilian maritime space also started in the last century, although it has been much less structural and certainly less visible than the activities in the traditional Brazilian space². Although there have been previous activities, it is considered that the planning of the Brazilian maritime area was started by President Geisel. He was also responsible for really developing the *Política Externa Independente*, a concept established by President Jânio Quadros in 1961, to stimulate a Brazilian foreign policy independent from Washington, to be able to promote Brazilian national (economic) development. Geisel put Brazil on the world map, under the military regime, in the middle of the Cold War. He established diplomatic relations with the People's Republic of China and further developed relations with the Soviet Union, as this country was willing to provide technology transfer, which the United States of America (USA) were not, in spite of American promises. After the USA did not keep another agreement, Geisel negotiated with the Federal Republic of Germany about setting up of a nuclear power plant in Brazil. Geisel was also very active in Africa and in other countries. He also started the country's maritime policy (VISENTINI, 1998; 2003).

As part of his project of national development, already in the first year of his government, Geisel established the Interministerial Commission for Sea Resources (CIRM) with the objective to set up a National Policy for Resources of the Sea (PNRM). The then Ministry of Navy³ became responsible for the coordination of CIRM. In the presidential decree it is also made quite clear that there should be a budget and sufficient funds allocated for specific projects, while the reports should be sent to the President himself. At CIRM meetings, there were representatives from all ministries concerned by any activity related to the Sea, from International Relations to Agriculture, from Science and Technology to Infrastructure, from Mines and Energy to Environment... Representatives had to be high-level specialists, nominated by the President himself. During these meetings, activities should be planned linked to the resources of the sea (BRASIL, 1974).

The whole document shows a great interest at the highest level in this Council and the projects it has to establish. Effectively, it has been CIRM that has been responsible for all the different activities that have been set up and implemented during all those years, from preparing the document for the recognition of Brazil's continental shelf, the policies of occupation of Brazil's archipelago's, for the projects of sustainable

² In 1968, there was a presidential decree on the establishment of an Interministerial Commission for the exploration and exploitation of the sea and ocean depths but not limited to Brazil (BRASIL, 1968).

³ Till 1999, the Armed Forces each had their own Ministry. Finally, in that year, a Ministry of Defence was established, although this project existed much longer. The Navy became part of the Ministry of Defence, but is still responsible for the coordination of CIRM.

development, mapping living, mineral and energy resources as well as many other topics, some of which will be detailed below.

To this end, in 1980, under President Figueiredo, a start was made with the elaboration of a detailed document, indicating the planning of the National Policy concerning the Resources of the Sea for “the rational exploration and exploitation of the Brazilian waters of living, mineral and energy resources to be found in the sea and in the subsoil, which are important for the economic and social development of the country and its national security” (General Guidelines for the National Policy concerning the Sea Resources; BRASIL, 1980 *apud* RIPPEL, 2014, p. 22).

For the implementation of this plan, it was necessary to train scientists and technicians, to develop national technologies and to establish budgets. Moreover, besides the involvement of state enterprises such as Petrobras, it was also necessary to involve private companies for the construction of equipment. Another requirement was taking care of the quality of the environment, and getting better knowledge of the ecological surroundings. These general guidelines served as the basis of the actions for the National Policy concerning the Sea Resources, till they were transformed in a decree in 2005, under the Lula Government. (RIPPEL, 2014). Meanwhile, CIRM was also very much involved in the demarcation of the different zones and maritime borders.

THE DELIMITATION OF THE NEW BRAZILIAN SPACE

After nine years of discussion, in 1982, the fundamental text on the sea, the United Nations Convention on the Law of the Sea (UNCLOS) was signed and came into force in 1994. It defines the rights and responsibilities of all those using the seas, which had become very necessary. Since the seventeenth century, only a small belt, of around 3 miles along the coast was considered national waters, and for the rest the seas belonged to all. This started to change when in 1945 president Truman asserted unilaterally a national claim to living and mineral resources in American waters. Other governments followed suit, extending unilaterally their national claims to resources in their jurisdictional waters. In 1950, the Brazilian president Dutra determined that the submarine shelf was to become an integral part of the national territory (BRASIL, 1950). The submarine shelf can be considered the predecessor of the continental shelf. This was one of the problems existing before UNCLOS, all claims and definitions were different.

Moreover, offshore oil drilling, massive fishing and pollution started to cause enormous problems. This led to conferences and ultimately to UNCLOS, which established clear boundaries: 12 nautical miles⁴ for the contiguous zone (CZ), 200 nautical miles for the Exclusive Economic Zone (EEZ) and 350 nautical miles for the Continental Shelf (CS). Within each zone, UNCLOS defines quite clearly marine sovereignty rights and rights of use. Within the EEZ, “the coastal State may exploit all resources - fish or oil, gas or gravel, nodules or sulphur - to be found in the waters, on the ocean floor and in the subsoil of an area extending 200 miles from its shore” (UNCLOS, 1982, part V, EEZ). For Brazil, this represents a substantial area of 3.539.919 km². As many other Latin American countries, the Brazilian Government had already

⁴ One nautical mile [nm] is equivalent to 1.852 kilometres. Thus the Contiguous Zone of 12 nm is 22.224 km from the coast; the Exclusive Economic Zone of 200 nm is 370 km [370.4 km] from the coast; the Continental Shelf of 350 nm is 648.2 km from the coast.

been claiming the limit of 200 nautical miles in 1970, for economic and security reasons. Not all countries agreed with this and similar claims (SILVA, 2013).

The rules of the EEZ also made it necessary for Brazil to take care of having the islands and archipelago's permanently inhabited to be able to claim the EEZ around them (UNCLOS, 1982, part VIII, b article 121, *Regime of islands*). This presents a special challenge for the Archipelago of São Pedro and São Paulo, as there is no source of natural water and it is quite inhospitable. In 1996, CIRM decided to establish a scientific station on the Archipelago, which became implemented in 1998. This way, the islands are permanently inhabited by rotating scientific teams. The teams stay two weeks on the island, after one week of training. The difficult living conditions have been described by a team, which stayed on the island (CASAGRANDE; CRUZ; ALVAREZ, 2003).

However, scientifically speaking the archipelago is extremely interesting. To begin with, the geological formation of these islands is unique as these rocks are outcrops of the ocean mantle, which rises from abyssal depths at around 4000 meters. The researchers work in the following areas: geology, geophysics, biology, fishing resources, oceanography, meteorology and seismology. Besides the representatives of CIRM, the Navy, five ministries, the Institute of the Environment and Natural Renewable Resources, and the National Council of Technological and Scientific Development are also participating in the programme. The interests in the Archipelago go beyond research, and are also strategic, because of its location, and economic, as fish, with an extremely high commercial value, migrate along the Archipelago. Thanks to the permanent habitation of an area of 17000 m², according to the rules of UNCLOS, Brazil has therefore the right to establish an EEZ around the Archipelago, which increases this zone with 450.000 km². This embodies about 13% of the whole Brazilian EEZ, or 6% of the national territory (SECIRM, n.d.a).

For the Trindade Island and the Martin Vaz Archipelago, a similar programme, focusing on research, has been established in 2007, the PROTRINDADE, also coordinated by CIRM. Trindade, which in 1882 became officially part of the Brazilian territory, has a volcanic origin and is situated at 1.167 km from the Brazilian coast and in the most eastern point of Brazil. The settlement at Trindade has been much easier than that of São Pedro and São Paulo, as the island has drinking water, vegetation and beaches. Its location and configuration made it a natural reserve for sea turtles, numerous birds and species of crabs. The Navy has occupied the island permanently since 1950 and it has become an Oceanographic Post in 1957. Due to its strategic location, it also plays an important role for Brazil's Defence, another task for the Navy. PROTRINTRADE was set up as there appeared quite some interest for doing research on the island of Trindade, the Martin Vaz Archipelago and the adjacent sea area (SECIRM, n.d.b).

Many economically important fish are found in the surrounding waters. One of the crucial concerns is taking care of the environment, which should always appear quite clearly in the proposals that are presented and also in the projects that get approved. The focus of the research is on local fauna and flora, such as the sea turtles, the ferns growing on the island, or on the volcanic formation. Other research concentrates on how local roots can foster growth of other plants, etc., as shown in the ensuing publications. The objective of all the research is to develop the sustainable use of this Brazilian territory and adjacent areas. The construction of the Research Station

of Trindade Island was also done with due consideration for the environment. The Station started operating in 2011 and can receive up to 8 researchers. Besides the representatives of CIRM, the Navy, six ministries, the Institute of the Environment and Natural Renewable Resources, the Chico Mendes Institute for the Conservation of Biodiversity and the National Council of Technological and Scientific Development are also participating in the programme. Concerning the maritime space created by this island, as it is permanently inhabited, Brazil claimed the EEZ around it, and, in this case, also the CS (SECIRM, n.d.b).

Establishing the CS is much more complex than the EEZ, as its attribution is not automatic but depends on a series of scientific parameters that define the CS, as it “comprises the seabed and its subsoil that extend beyond the limits of its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, which may extend to 350 miles from the baseline or 100 miles from the 2,500 metre depth, depending on certain criteria such as the thickness of sedimentary deposits... The natural resources of the CS consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.” (UNCLOS, 1982, part VI, art. 76 & 77; FRANCKX, 2010)

When the Brazilian Government signed the Convention in 1982, it immediately specified that: “Brazil exercises sovereignty rights over the continental shelf, beyond the distance of two hundred nautical miles from the baselines, up to the outer edge of the continental margin, as defined in article 76.” (Declarations upon UNCLOS ratification; MORE, 2010).

As the delimitation of the CS is extremely complicated, a Commission on the Limits of the CS (CLCS) has been set up in 1997, giving countries a deadline to fill in a request for recognition of their CS to the CLCS. First the deadline was set at 2004, 10 years after the ratification, and then this deadline became extended to 2009, and was pushed back again. The last registered demands are from 2014, 10 years after the deadline planned initially. (FRANCKX, 2010; CLCS, Submissions, 2016). In 2004, Brazil was the second country, after Russia, to hand in a request for the recognition of its CS, and it submitted an amended version in 2007. In the meantime, over 70 countries also presented a request for the recognition of their CS, sometimes jointly (CLCS, 2016).

Brazil even helped Angola to formulate its demand, as over the years, quite some know-how has been acquired by Brazilian specialists. Angola is member of the Community of Portuguese Speaking Countries (*Comunidade dos Países de Língua Portuguesa* – CPLP), with which Brazil has special relations. Defence is one of the areas of cooperation within the CPLP. Quite a number of them are situated in Africa and these Portuguese speaking countries have formed their own organisation, the African Countries with Portuguese as Official Language (*Países Africanos de Língua Oficial Portuguesa* – PALOP). As all of them, except Mozambique, are situated along the Atlantic coast, it makes them of paramount interest for Brazil. But some other African countries along the Atlantic are also considered important such as Nigeria and Namibia and Brazil has elaborated a number of plans in cooperation with all these countries bordering the Atlantic (VISENTINI, 2010; ABDENUR; SOUZA NETO, 2014).

Nonetheless, it should also be stressed that if all the demands for the CS are recognised, this will imply that national maritime spaces will be increased by 40%, to the detriment of the International Seabed, which has been determined as Common Heritage of Mankind and for which the International Seabed Authority has been set up to act as a watchdog. Especially countries without EEZ and CS will suffer the consequences of this loss of space (FRANCKX, 2010; WIESEBRON, 2012).

However, the CS is of crucial importance to Brazil as it is in this area that the impressive pre-salt deposits of oil and gas have been found. There is an area of 19%, which the CLCS did not yet recognize, but Brazil still claims and for which Brazil has introduced a revised proposal to settle this issue. This whole topic is exceedingly technical and requires an extremely precise presentation, as the result will have legal consequences. Meanwhile, in 2010, CIRM wrote the resolution nº 3 /10, which gives it the authorisation to evaluate requests for research in its CS, and which confirms the 1982 Brazilian declaration (WIESEBRON, 2012; SILVA, 2013). The whole area in question covers 960.000 km², which added to the EEZ, represents 4.499.919 km² or nearly practically 4,5 million km². This means that the maritime area has an enormous size, equivalent to over 50% the size of Brazil's land mass (WIESEBRON, 2012). These jurisdictional waters warrant extensive, diversified, careful attention and this leads to the National Policy for the Sea Resources and plans for their protection.

POLICIES CONCERNING THE NEW BRAZILIAN SPACE, AMAZÔNIA AZUL

These policies can be divided in two categories: on the one hand the planning of various policies for the development of the various, living, mineral and energy resources, on the other the planning of the protection of all the maritime resources in Brazilian jurisdictional waters. This led under the Lula Government to a completely different approach of defence in Brazil, with a special role for the Brazilian Navy. Therefore, this Navy is involved in both aspects, of which the first can be considered special. In general, Navies around the world are involved in issues of defence, not in sustainable development.

PLANNING THE SUSTAINABLE DEVELOPMENT OF THE BLUE AMAZON

In 2012, Francis Vallat, president of the *Cluster Maritime Français*, made a series of very relevant observations, starting with the comment that “the importance of the oceans cannot be overstated: 90% of the goods are transported by sea and represent a turnover of 1,500 billion euros, which will increase to 2000 billion by 2020. Since Vasco da Gama circumvented the Cape of Good Hope, maritime transport made products quite a lot cheaper, already 5 times cheaper in his days. If all maritime activities are added up, it is the second economic activity in the world, just behind the agriculture and food industry, and far ahead of aeronautics and telecommunication. Today there are 50,000 merchant ships, which employ 1.5 million personnel on board. In the last thirty years, the flow of cargo has increased fivefold and will double till 2020, and reach 15 billion tons. The same number of passengers, namely 1.6 billion,

take either a ship or a plane. It is also noteworthy that submarine cables allow more communications than all satellites combined (VALLAT, 2012).

The power of the sea is still growing as it represents the future of the planet for energy, food, pharmaceutical research, offshore mineral resources... Meanwhile, the knowledge of the oceans, sometimes considered the “sixth continent”, is still very scant, as only 10% of the marine fauna and flora, and less than 5% of the marine soils have been explored, even slightly. This unknown “continent” is one of the key assets of our planet threatened by its demography and the depletion of traditional resources. Therefore, it is a necessity to protect future generations while allowing current generations of living (VALLAT, 2012).

One of the fundamental challenges shall be to reconcile development and sustainability, specifically to protect the seas at a time when 6 million tons of oil waste are dumped in the oceans each year. To give just one example, the Bay of Biscay, where 60 000 ships pass through every year, is polluted by approximately 50 million individual pieces of waste, of which 80% are plastic... Hence, also the recent emergence of the discussion of the principle of the freedom of the seas, the Anglo-Saxon extreme design cannot be maintained, as too much freedom would eventually kill freedom (VALLAT, 2012).

For the Brazilian government sustainable development is a key element of the exploration and exploitation of the sea. It encourages “the exploitation and sustainable use of Resources of the Sea, of the waters superjacent to the sea, the seabed and its subsoil, and adjacent coastal areas”, as stipulated in UNCLOS (1982, part V, EEZ, art. 56, 1, (a)). This sentence is also embedded in the Presidential Decree nº 5.377 of 2005, established during the Lula Government, which replaces the Guidelines, which had served as basis since 1980 for the realisation of the PNRM. In the 2005 Decree, “The objectives of the PNRM are threefold: to promote the training of human resources; to stimulate the development of research, marine science and technology; and to encourage the exploitation and sustainable use of Resources of the Sea [...]” (BRASIL, 2005a, art. 6).

Concerning the human resources, quite a number of strategies have been established to foster the development of these resources, which go from investing in research institutes, researchers and technicians, specializing in maritime topics, including international exchanges, schools where specific courses should give attention to sustainable development of the sea, to the promotion of activities to stimulate a Brazilian sea mentality (BRASIL, 2005a, art. 7).

Specifically for this latter purpose, the Brazilian Navy, in cooperation with the Ministry of Education, published two books, first one in 2005, *O Mar no Espaço Geográfico Brasileiro* (The Sea in the Brazilian Geographical Space), and the second in 2006, *A Importância do Mar na História do Brasil* (The Importance of the Sea in the History of Brazil). In both cases, 177.000 copies were distributed to school teachers at the primary and secondary levels, so that they could explain the importance of the sea for Brazil to their pupils. Even so, the concept *Amazônia Azul* still seems quite unknown to many Brazilians. (WIESEBRON, 2012). Maybe the two concepts Darc Costa uses “*continentalidade*” and “*maritimidade*”, to stress the importance of both continent and sea for Brazil, could be useful (COSTA, 2003).

The strategy of the same Decree concerned with Research, Science and Technology is extremely ambitious and not limited to Brazilian jurisdictional waters and covers

all possible sciences relevant to the resources of the sea to promote the sustainable use of all living and non-living resources of the sea, in the Brazilian jurisdictional waters, or of national interest. Also considered relevant are research in oceanography, climatology, geology, geophysics, biotechnology, etc. It is also clearly stated that the country is interested in participating in research, exploration and exploitation of mineral resources in the International Seabed Area (BRASIL, 2005a).

The document stresses, time and time again, the importance of sustainability for all different aspects of research, exploration and exploitation, as well as respect for the environment. At the same time, it also underlines that the resources have to be exploited in an economically viable way, which has been a serious obstacle, as all exploration and exploitation has long been prohibitively expensive. Recent technological development has changed this, as stated before. Furthermore, special attention is paid to the need of developing a national capacity for the “construction of vessels, platforms, attractor buoys, artificial reefs and other floating and submerged means for the teaching, research, exploitation and sustainable use of the resources of the sea”. For the implementation of these objectives, multiannual plans must be set up (BRASIL, 2005a, art. 7, 8).

Till 2016, eight multiannual Sectorial Plans for the Resources of the Sea (PSRM), had been elaborated, the first seven ones have focused in particular on human resources and sustainable development of the maritime resources. The VIIIth PSRM elaborated for the period 2012-2015, in close collaboration with the Thematic Programme entitled “Sea, Coastal Zone and Antarctica”, focuses mainly on the following topics, where sustainable development seems to be a leitmotiv:

- “environmental conservation and the strategic importance of the islands in the Ocean; the monitoring and conservation of living Resources of the Sea, and their sustainable exploration and exploitation;
- the exploration of coastal and marine biodiversity with a view to its conservation and sustainable exploitation;
- the survey of non-living resources and their potential in Brazilian waters and beyond these waters, and its exploration and sustainable exploitation;
- oceanographic and climate monitoring;
- continue to work on and strengthen the maritime mentality in the Brazilian population;
- the continuing training of human resources in the area of maritime sciences” (CIRM, 2011, author’s translation).

The IXth PSRM, for 2016 till 2019, continues mostly with the same objectives of the previous one. In 2016 in a resolution of the 30th of August, two changes in the composition of the PSRM have been approved, namely the inclusion of the Ministry of Defence, as an interested party concerning the CS, its member replacing the member of the Ministry of Fisheries and Aquiculture, incorporated again in the Ministry of Agriculture in 2015, as a way of reducing government expenses (CIRM, 2016). Fishes are one of the main living resources. What the impact will be of the new situation is not quite clear. Rippel (2014) has made a list of the main obstacles to the achievement of the PNRM and one of them is the different perspectives between the now extinct Ministry of Fisheries and Aquiculture and the Ministry of the Environment. The major hurdle is the general lack of allocation of financial resources as other public policies have more public appeal (RIPPEL, 2014).

PLANNING THE PROTECTION OF THE BLUE AMAZON

While on the one hand, the Navy, in cooperation with other ministries, institutions, research institutes, universities is planning the sustainable development, the environmental conservation of the Blue Amazon, and sometimes beyond these waters, the Navy also plays another important role, its more traditional one, namely the defence of the Blue Amazon. which is understandable. The importance of energy resources is emphasized in the National Defence Strategy (END) and as the Navy's first priority is mentioned the proactive defence of oil platforms and, more generally, the areas of offshore oil production, in the EEZ and CS (END, 2008).

Other tasks of the Navy are related to the defence of Brazilian jurisdictional waters and its territory, including its islands, its archipelagos, its coast and its rivers. The Amazon river and in particular its estuary deserves special attention and is specified a number of times in the END. Concerning the Ocean, the field of action of the Armed Forces is not limited to the Blue Amazon, but covers the whole of the South Atlantic, one of the main areas to be taken into account by the Brazilian defence as the whole South Atlantic is of crucial strategic importance for the country (END, 2008, in particular art. 8 & 9; ABDENUR; SOUZA NETO, 2014).

The END, a key document which details what is expected of the Armed Forces in general and the Navy in particular, also stresses that the Navy, even with the support of both the Naval Aviation and the Air Force, can only play its role in the Atlantic if the Navy is thoroughly modernised and gets the possibility to increase its presence. The objective is to have two fleets, each with its own aircraft carrier, one already existing in Rio de Janeiro, and a new one possibly in the State of Pará, to cover the estuary of the Amazon River. The fleets should also be formed by a variety of ships in different numbers, including multipurpose ships, logistical support ships, and an amphibious division. This plan is extremely ambitious as Brazil must invest heavily on modernising and expanding the number of its ships. It is working on it (ABDENUR; SOUZA NETO, 2014).

All the details concerning the projects for the Navy have been worked out in in the Articulation and Equipment Plan of the Brazilian Navy (*Plano de Articulação e de Equipamento da Marinha do Brasil – PAEMB*), the consequence of the proposals formulated in the END, and provides between 2011 and 2030 short, medium and long term projects, with a budget that should be sufficiently substantial to allow the Navy's current equipment to be improved and increased. The modernisation project should not end in 2030 and is thought out at least until 2047 (MENDONÇA, 2011; WIESEBRON, 2013). In this context, it is always useful to remember Rui Barbosa's⁵ observation who said that "it is not possible to improvise a fleet" (*Esquadras não se improvisam*), when studying the deadlines needed to be able to develop the equipment desired by the Navy to defend Brazil. Rui Barbosa's remark remains valid today.

One of the important factors, besides time needed for the construction of the fleet is obviously a budget which is satisfactory. In 2012, the French Senate presented a report on the increased importance of the seas, on the concept "maritimisation", which is quite comparable with the work of CIRM. The report contains, amongst others a comparative table on defence spending and the number of Brazilian, Russian, Indian and Chinese carriers, aircraft carriers, frigates, etc., and the BRICs, and from 6 European countries, which showed

⁵ Rui Barbosa de Oliveira (1849-1923) was a Brazilian diplomat, lawyer, politician and writer. As Brazil's representative, he has played a foremost role in the 1907 Second Peace Conference in The Hague. He has also been a Minister of Finance, a federal representative and a senator.

the crisis in Europe and the expansion of the BRIC defence sector, especially of China (FRANCE, 2012).

In view of the total political change in Brazil in 2016, with the impeachment of President Dilma Rousseff, a procedure considered flimsy, and even a (parliamentary) coup, by different national and international institutions and academics, it is not clear what will happen, especially as defence has never been considered a priority and budgets have never been adequate (PESCE, 2010). Over a long period, the defence budget in Brazil has been on the order of 1.5% of the Gross National Product (GNP). Mostly during the second Lula Government (2007-2010), it has increased to 2.5% of GNP. But, most of the budget is reserved for expenditure with personnel; only 4% is used for investments in equipment modernization (VILLA, 2008).

Most of the investments remain concentrated in the submarine-related programmes: the development of conventional submarines and another with the nuclear fuelled by Brazilian enriched uranium and nuclear propulsion. The Submarine Development Programme (PROSUB) is the result of an agreement between France and Brazil, which was signed in 2008, and includes the construction of four conventional submarines and one nuclear. This agreement includes the transfer of technology, the condition *sine qua non* for the Brazilian Government to sign a strategic military partnership with another country. Also, part of this French-Brazilian agreement is the establishment of a submarine shipyard and an adapted submarine base in Itaguaí, in the state of Rio de Janeiro. This whole project, besides improving the defence capabilities of Brazil, will also generate thousands of direct jobs and a multiple of indirect jobs, through the construction of conventional submarines and a submarine powered by nuclear reactors (PINHEIRO; AGUIAR, 2012).

For the much-needed modernisation of the Naval Aviation and the Air Force, an agreement has been signed with the Swedish company Saab also with technology transfer. Saab will deliver 36 Gripen NG multi-role fighter aircraft to Brazil. Part of these fighters will be built in Sweden, and another part by Embraer in Brazil. This has also had different ramifications, Brazilian aeronautic students going for their PhD to Sweden with special Capes scholarships, although the scientific cooperation is much broader. Meanwhile, both Air Forces are also developing a closer cooperation (AR-CANJO, 2016; WILTGEN, 2016).

Germany, Italy, Russia and other countries are also involved in strategic military cooperation with Brazil and technology transfer. Amongst the areas for cooperation, there is also specific attention for radar systems, essential for the establishment of Blue Amazon Management System (*Sistema de Gerenciamento da Amazônia Azul – SisGAAz*), a new satellite and monitoring system with radars for underwater sensing aimed at the surveillance of the Brazilian territorial waters. It is clear that the defence plan is very elaborate and complex, which is understandable in view of the size of the Amazônia Azul and all the resources it contains.

CONCLUSION

Amazônia Azul, the Blue Amazon is a crucial new space for Brazil, which warrants a lot of attention because of its economic, environmental, scientific, and strategic importance. What is remarkable is how this new space has been created. CIRM has shown quite some vision and imagination to be able to establish the maximum Exclusive Economic Zone, in accordance with the UNCLOS rules. In particular the permanent occupation of the Archipelago of São Pedro and São Paulo is quite innovative and allows the inclusion of an impressive EEZ area around it. The definition of the Continental Shelf has not yet been totally concluded, but the Brazilian Government has made it clear that this space should also be considered as part of the Brazilian jurisdictional waters.

Since the military governments, the exploration and exploitation in a sustainable way of all kind of sea resources, living and non-living, have been developed by CIRM. However, it is foremost under the Lula Government, from 2005 onwards, that these projects take off, with very ambitious and comprehensive plans. Major attention is devoted to the development of human resources, including creating a Brazilian maritime mentality, and high-level research, besides continued broad exploration and sustainable exploitation.

At the same time, Lula was also very innovative in the area of defence, as all the Brazilian resources have to be protected in case of need, while the previous president, Cardoso, had made it clear that there was absolutely no need for investing in defence. This investment in defence implies better cooperation between the armed forces, improving human resources, the modernisation of the equipment, which has to be done through the transference of technology and the construction of the material in Brazil itself. This has led, amongst others, to two very important agreements, one with France for the construction of submarines, the second with Sweden for the replacement of very outdated fighter aircraft for the Air Force and the Navy. The Brazilian Navy plays a double role, planning the exploration and sustainable exploitation of the Blue Amazon and its defence. However, the lack of funds hampers considerably the implementation of the planned sustainable development and defence of the Amazônia Azul.

Marianne L. Wiesebron

holds a Diplôme d'Etudes Approfondies in Brazilian Studies from the Université de la Sorbonne Nouvelle - Paris III, France and a doctorate in Brazilian Studies from the Université de la Sorbonne Nouvelle - Paris III, France. She holds a habilitation à diriger des recherches in history from the Université Michel de Montaigne, Bordeaux III, France. She is associate professor at the Faculty of Humanities at Leiden University, Netherlands.

E-mail: m.l.wiesebron@hum.leidenuniv.nl

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