

# Brazilian Air Force against COVID-19

## A case study

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### Introduction

History tells us that, without exception, the idea of Air Power arose even before the formation of Air Forces. When this new military force was formed and this new breed of military, the airman, was born; it was an answer to a process that started with the implementation of air machines as tools by navies and armies, and ended with the acknowledgement that in order to do very specific tasks, a higher degree of specialization was required—all nations realized at some point that this could only be successfully achieved by creating a separate military force.

In Brazil, this happened in 1941. For the Navy, it was during its main engagement patrolling more than 7,000 kilometers (4,500 miles) searching for enemy U-boats circulating the South Atlantic waters. For the Army, it was during the integration of the less populated North and West of the country with the densely populated South and East, with the objective of reinforcing the presence of the state at the most far points of Brazil's 8,500 km<sup>2</sup> (3,200 sq mi), especially in the Amazon region with the use of amphibious boats, due to the lack of airports.<sup>1</sup>

Since its inception, the Brazilian Air Force (BAF) pursued two main goals: defense and integration of the territory, with its main focus being domestic related operations. Therefore, with some exceptions, BAF operations abroad have historically consisted of logistical missions, from being part of the Allied forces during the Italian Campaign, to participating in United Nations missions.<sup>2</sup>

This focus is made clear by BAF's vision to "become an Air Force with great deterrent capacity, operationally modern, and acting in an integrated way for the defense of the national interests" and its mission "Maintain the sovereignty of national airspace and integrate the national territory with the objective to defend the homeland".<sup>3</sup> With the emphasis on the "national" present on both slogans, it was not surprising that the country relied on its Air Force during the COVID-19 pandemic to support the fight against this invisible menace.

The aim of this work is to explore how the BAF has dealt with this crisis, according to their particular capabilities as a domestically focused air power branch, in order to present lessons learned that could be used in the future.

## Legal and Operational Concepts

In the Brazilian legal framework, there are two rules of thumb when it comes to public service rights and duties: no citizen can be forbidden to do anything unless there's a legislation prohibiting it, and no public employee can perform any duties unless such act is provided by law.

Therefore, the framework of BAF's duties and responsibilities, are derived by Brazil's Constitution, which states that the military forces are "... permanent and regular national institutions, organized on the basis of hierarchy and discipline, under the supreme authority of the President of the Republic, and are intended for the defense of the Homeland, the guarantee of constitutional powers and, on the initiative of any of them, of law and order".<sup>4</sup>

Over time, other missions were added under the umbrella of military responsibilities, under two other laws (No. 97/1999 and No. 136/2010) which, upon approval, created the concept of the "subsidiary assignments". This concept embodies most of the Brazilian military's contemporary work: support national development as demanded, support civil defense against natural and manmade disasters, and assist federal and local agencies in public campaigns (vaccination, elections, epidemics) as well as combating border and environmental crimes.<sup>5</sup>

These documents dictate the adherence to guidelines to National Policies and Strategic plans, and their respective implementation at the local level. In BAF's case, the Strategic Concept–Air Force 100, Air Force Command Directive (DCA 11-45), established in 2018, aims to define goals and guidelines to be prepared to act in the following scenarios:

- Guaranteeing the sovereignty, territorial integrity, and patrimonial defense of the country
- Humanitarian aid and mitigation of the effects of disasters
- Preventing transnational crimes
- Safeguarding Law and Order (acting as a police force or in support of the police forces)
- Contribution to world order and peace through international commitments
- Safeguard of assets and Brazilian citizens abroad
- On a regional conflict inside Brazil's strategic environment
- Keeping neutrality inside Brazil's strategic environment
- Space domain operations
- Cyberspace domain operations<sup>6</sup>

DCA 11-45 is a dynamic document meant to be the roadmap of BAF transformation leading up to its 100 years anniversary in 2041. It expects for the outlined scenarios to change due to modifications in domestic and international politics, and thus emphasizes general objectives and capabilities that can be applied to existing scenarios and new ones that could arise—COVID-19 being an example of a new demand.

DCA 11-45 outlines four strategic objectives: prioritize airspace defense, build capabilities to assure the level of air control desired, build mobility capabilities with the purpose of supporting the demands of ongoing operations and prepare troops by focusing, not on a specific enemy, but on the following on six capabilities:

### ***Strategic Projection of Power***

The capability to employ airpower wherever it is needed, at the desired moment, and suitable to the dimension required. The assessment of the capability to deliver weapons and assets in any area of interest must determine the type of equipment used as well as the training of those who will use them, while considering Brazil's strategic environment.

### ***Airspace Domain Superiority***

The capability to control specific segments of air and space domains for a limited period and/or prevent the enemy to do so. This assumes that domain of the air and/or space over an area of interest is a crucial element in military operations, allowing ongoing operations to occur with effectiveness.

### ***Command and Control***

The capability to allow commanders, at all levels, to exercise authority over subordinate forces and to verify the results of the actions performed. Indispensable in all domains of operation, Command and Control is vital and needed for a systematic flow of information.

### ***Information Superiority***

The capability to collect, process, store, disseminate, produce, and protect data in the appropriate form and time based on the operational environment, and at the same time deny the enemy to do so. The interoperability between air, land, and sea assets should be focused first and foremost on ensuring communication among forces in the battlefield, without which nothing can be done.

### ***Logistics Support***

The capability to provide means to assets by the prevision, provision, and maintenance of the resources necessary for the continuity of the campaign. Aircraft and related material are, by nature, fragile and dependent on high technology; so the rhythm, duration, and intensity of any air campaign is directly related to an efficient logistical support.

### ***Force Protection***

The capability to protect personnel, material, installations, information, and communications against threats from nature and enemies. Aircraft are easy targets when not flying, therefore their protection must be assured not only while flying, but also on the ground. Related resources (e.g. personnel, hangars, barracks, air traffic service, installations, and so forth) also must remain safe from natural and manmade hazards.<sup>7</sup>

Based on these legal and operational concepts, there was no doubt that when the COVID-19 virus arrived at Brazil, there was not only an expectation but a demand that the BAF (along with the Army and the Navy) take a pivotal role in the actions managed by the federal government to fight the crisis.

## **Operation Return**

Even before the COVID-19 virus was actually confirmed in Brazil, the Brazilian Department of the State requested BAF take part in the planning and execution of the repatriation of Brazilians citizens trapped in the Wuhan province, due to the lockdown imposed by the Chinese government as an attempt to control the virus spread. Since the use of commercial flights to get in and out of the region was considered a complex and time-consuming solution, the Brazilian government decided that a team with military specialists in a military flight as the most adequate line of action to execute the mission.<sup>8</sup>

The mission started on 4 February, with two EMBRAER 190 aircraft operated by the Special Transport Group, based in Brasilia, the country's capital. Used to support mainly the president and vice-president on official missions, both 190s were customized with medical equipment and 24 civilian (health and psychological specialists, among State Department personnel) and military professionals (including the aircrew and a couple of biological warfare specialists), and sent to bring back a total of 34 passengers, arriving back in Brazil 5 days later.<sup>9</sup>

Because of aircraft limitations, the flight had to make three stops: Las Palmas (Spain), Warsaw (Poland) and Urumqui (China) to refuel, with two crews on-board on shift schedules. The first crew flew the aircraft to Warsaw, where they

disembarked and remained on rest status; while the second crew flew the aircraft to Wuhan and back, at which time the first crew assumed control of the aircraft and flew back to Brazil. The concept behind a double set of crews (the normal routine uses 1½ half crews for long flights) was to decrease total flight time as much as possible, since no country was prepared to host travelers coming from a contagious zone on their soil.<sup>10</sup>

At the same time, another challenge arises: how and where to apply the quarantine needed for repatriated personnel? Since the Air Force was deeply involved in the process, as the crew would have to be also on quarantine, an understanding was reached with the Department of Health to facilitate the process, treating all military and civilians in the same place, under the same protocols.

Thus, Operation Return, an interagency operation, was launched at Anápolis Air Force Base, due to its location and infrastructure. Located at the center of Brazil, this base provided for the most expedient relocation of patients during the quarantine period. The base also had the necessary infrastructure to isolate the travelers and crew and provide them all the support needed, to include: five meals a day, internet, access to a sports court, medical assistance, social activities, and so forth, while also following the health protocols established at the time.<sup>11</sup>

After 15 days all personnel were confirmed to be COVID-19 free and received an approval by the health authorities to continue their travel to their desired destinations; which the BAF accomplished as well (this entailed flights to seven locations throughout Brazil, with one person deciding to stay in Anápolis).<sup>12</sup> Operation Return was declared a success, not only because of the objectives achieved, but also due to the BAF's ability to operate with other national agencies providing support, not only for the flight, but logistical operations during the quarantine period.

However, while the first consequences of the COVID-19 pandemic were felt miles away from the Brazilian mainland and were relegated to a few square miles in an Air Base, the next chapter of the crisis would affect the whole country and, again, the BAF would be requested to help on the front lines.

## **Operation COVID-19**

With the confirmation of the first cases of COVID-19 on national soil at the beginning of March, a crisis cabinet was formed at the ministerial level with direct subordination to the President of the Republic on 16 March. From there, interagency actions to confront the Coronavirus were articulated and monitored, serving to provide assessments to the president. In the end, requirements were gathered and missions were assigned at all three levels of government: federal, state and municipal.<sup>13</sup>

Due to its mobilization and logistical capabilities, the *Ministério da Defesa* (MD - Department of Defense) was one of the first government agencies to be in demand. This prompted the Secretary of Defense to declare on 18 March, that the virus should be considered an enemy, which meant that an operational plan for war was to be prepared and that military personnel were to be prepared to contribute as needed, to combat the consequences of the disease.<sup>14</sup>

Moving from words to action, two days later, on 20 March the MD established a Joint Operation Center (JOC) under its purview, to plan and coordinate the use of the Army, Navy and Air Force resources in the fight against the COVID-19. Under this JOC, which held the responsibility to respond to all political leadership requirements,<sup>10</sup> Joint Commands were activated, with one assigned to the Airspace Operations Command (normally under BAF's structure). Under this framework, all national mainland and airspace were covered, with specialized personnel assigned to attend issues related to public affairs, legal actions, press releases, and other non-operational matters.<sup>15</sup>

The Armed Forces provided operational and logistical resources to support various actions, such as passenger and crew control at airports, ports and maritime terminals, border control, personnel decontamination, specialized military Chemical, Biological, Radiological and Nuclear (CBRN) defense units; and to support other demands from the health bureaus at all levels. Additionally, it provided military medical facilities (temporary or permanent) needed in support of specific actions.<sup>16</sup>

In this epidemic context, BAF basically used all its logistics capabilities, achieving during two months of operation more than 500 flight hours and transporting 250 tons of cargo. BAF made almost every operational cargo lift asset available: C-95 (EMB-110), C-97 (EMB-120), C-98 (C-208), C-99 and VC-99 (EMB-145), C-105 and SC-105 (C-295), C-130 and KC-390, throughout the national territory, reaching more than 35 cities in 20 states and the Federal District.<sup>17</sup>

A myriad of missions were required of the BAF, to include the repatriation of Brazilian citizens who were stranded in Peru and Venezuela due to border closures, transportation of ambulances, molds for making protective masks, respirators, vaccines against H1N1 Influenza, Protective Equipment Individual (PPE), Rapid Tests COVID-19, beds and hospital stretchers, alcohol gel, capsules of insulation cylinders oxygen, equipment, and decontamination personnel for facilities, food, and hygiene material for impoverished communities affected by the lockdown of the economy (including in this case a wide range of native tribes in the Amazon region), amongst other missions.<sup>18</sup> BAF actions were not only limited to flying missions, it provided boots on the ground as well.

As a prophylactic measure focusing on its own active and retired personnel, all BAF activities on the installations were reduced; military units worked on shifts; veterans and relatives who needed to submit their annual health certifications during this period were granted 120 days extension; all museums, libraries, memorials, and common spaces under BAF jurisdiction were closed to visitors; military personnel were restricted to travel only on official duties; hospitals were only allowed to receive emergency, urgent, or COVID-19 related cases. Since the crisis is dynamic, websites and call lines were established to improve official communications and avoid the spread of fake news or scams.<sup>19</sup>

BAF also took proactive measures as well, vaccination campaigns against influenza H1N1 were instituted; a call center was created for BAF's health system users to not only provide clarifying information but also psychological support (through chats and electronic messaging) to families whose relatives were hospitalized; training for specialized military and civilian personnel; and a close liaison was developed between the Center of Specific Acquisitions (responsible for procurement actions assigned by legislation) and the Aeronautical Chemical-Pharmaceutical Laboratory (responsible for development, manufacture, and distribution of medicines and chemical products to serve the Air Force and the public health system).<sup>20</sup>

This led to a prompt response on acquisition of PPE and medicaments, as well as a centralized distribution of these materials for the entire BAF health system. Additionally, a network focused on COVID-19 was created, focused on linking infectious disease professionals at the higher levels in the Air Force hierarchy, with remote and less prepared units, to coordinate bed distribution, personnel rotation, and common solutions to day to day problems by spreading lessons learned and other actions.<sup>21</sup>

## **Lessons Learned and Legacy**

Before, during, and after Operation Return, a debate was taking place among specialized defense sites: does the BAF have "short legs" when it comes to strategic air lift? It happens that after the retirement of its 707 fleet, BAF had leased a 767 for a short period of time (2016-2019); and although it announced the intention to buy up to three aircrafts of the same model, as of 2020, the effort remained stalled. The main criticism against current capabilities was based on having to use two aircraft, with two stops, to repatriate citizens from China, indicating a gap in BAF force projection.<sup>22</sup>

Indeed, there is a gap, but as mentioned previously, the BAF should be seen as a domestic versus international oriented force. Nonetheless, its KC-X project intends to procure a heavy lift jet to add to its inventory.<sup>23</sup> However, if we look at

both Operation Return and the operations in support of COVID-19 response as part of a bigger process, the decision to prioritize medium tactical lift (over a replacement for the retired 707) was a more effective decision due to the number of missions demanded to work domestically versus internationally.

As part of the decision to prioritize investment on medium tactical lift, was the procurement of the KC-390 Millennium aircraft platform, which had its first operational missions during Operation COVID-19. Being an indigenous initiative between BAF and EMBRAER in 2009, the plane was developed as a replacement for BAF's C-130 fleet, to execute air logistic transport, mid-air refueling, airborne drop of personnel and material, fire-fighting, and Search and Rescue (SAR) operations.<sup>24</sup> Thus, sometimes traditional solutions based on Air Power paradigms (like the "need" for strategic airlift) will not always fit the needs of a particular Air Force; which should derive best solutions based from mandates at the political level, and not the opposite.

Furthermore, another lesson learned was the importance of the creation of an integrated command center, responsible for requirements gathering and assignment of tasks. Although an integral part of purely military operations, when it comes to interagency operations, this is highly import to avoid miscommunication and waste of resources. Although it can be hard to implement at the beginning of a crisis, due to the urgency of needs everywhere, which leads to agencies taking unilateral actions to "expedite" the process, in the long run, it is clear that a centralized approach takes the pressure from the operators in the field and facilitates the transfer of information to the political level, once it is directly subordinated to higher authorities.

Thus, when a local mayor, congressman, or governor approaches an aircraft commander for "a favor", that commander is able to transfer the answer to the proper agency and have, together with the rest of the flight crew, the serenity to focus only on what they're trained to do, leaving the political aspects of missions with the authorities responsible for it. This also applies to other related issues like public relations, press conferences, etc.

Another lesson learned was the need to ask for requirements versus simply providing available BAF capabilities. When the planning for Operation Return started, the need an isolated location, with controlled access, easy to monitor, and near health facilities, among other requirements, in order to satisfy lockdown requirements became clear. Once these requirements had been identified, the BAF was able to provide solutions that, in the end, helped solve the problem. However, in the beginning, the main role of the Air Force was thought to only be the transportation of citizens; which had it not been for the good interagency communica-



tions established across many different authority levels, would have ended in a much more difficult and/or costly solution.

Finally, the legacy acquired from this experience is the improvement in the BAF health system, which includes the ability to work with health-related agencies inside and out of its traditional environment. It also includes improvements in the training of teams designated to attend emergencies and urgent protocol reviews pertaining to health, technical, and administrative processes. This also led to experience in the rapid development, acquisition, maintenance, and recovery of high value-added equipment (such as scanners, and life support modules for intensive care units) and improvement in the methodology of handling psychological patient and family care.<sup>25</sup>

All BAF actions taken today are focused on the daily battle against COVID-19, which has created the need to go beyond routine operations. Hard to say when and how it will end, all we can do is to learn from the actions taken and decisions made; from flying VIP airplanes across the ocean, to the mobilization of hospitals and clinics resources; all the while keeping in mind that optimizing the use of public resources must not only be a permanent goal, but a path to helping the country.

Because in this war the enemy is invisible, winning battles means being able to support this costly national effort in an efficient, anonymous, and transparent way. □

## Notes

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