

INTERAGENCY OPERATIONS IN ANALYSIS: LEARNING FROM EPISODES IN CARAGUATATUBA, GOIÂNIA AND RIO DE JANEIRO

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ABSTRACT

This paper addresses the learning process related to the development of interagency operation and its doctrine resulted from three episodes' analysis: the hecatomb in Caraguatatuba, the radiologic accident with cesium-137 in Goiania, and the disaster at the mountainous region in Rio de Janeiro. The literature review and documental analysis carried out in this work intend to obtain teachings and to shed light on a time gap previous from the 1st edition of the "Interagency Operations" Manual (BRASIL, 2012a), published by Defense Ministry in 2012. The results from this study points out problems that hampered the effectiveness regarding the mobilization of civil and military institutions in order to resolve the complex matters faced at the time of the episodes. Thus, we conclude the necessity of qualification regarding a better practice of interagency that can be enabled by means of courses and trainings, in which the future paths of these operations can be addressed, considering not advisable the reunion of agencies exclusively during crisis moments.

Palavras-chave: Disasters; Learning; Interagency Relations.

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INTRODUÇÃO

When the Brazilian Defense College finished the 1st Interagency Coordination and Planning Course, by the end of October 2021⁴, a relevant step on the matter of interagency operations teaching and learning management was established. For the first time, in the scope of Brazilian schools of advanced studies on the defense field, it was carried out a 4 weeks interagency course (BRASIL, 2021b), which gathered participants from 14 national institutions (BRASIL, 2021a).

The course designed by the Brazilian Defense College emerged from a demand of the Republic Institutional Security Office to enable interagency operators of agencies that were part of the Integrated Security Borders⁵ Program (BRASIL, 2021b).

We understand that the demand itself for the impletion of a course of such scope relates to a process which highlights participants' preparation in order to execute operations of this nature as a main aspect, since:

The interagency issue perhaps has never had such relevance as now, in view of the emergency of complex problems, which are to be faced at the dawn of 21st century's third decade (FIGUEIREDO; MOREIRA, 2022, p.281, our translation).

It is fundamental to highlight that interagency operations have been carried out in Brazil much before its upholding as a State instrument to respond to contemporary demands, such as major sports events held by the country⁶ (2007-2016), which demonstrated categorically the importance of this type of operation (VASCONCELOS, 2018).

We have observed, previous to the existence of any interagency doctrine specific to the execution of operations of such scope, from end of the 1960's until 2011, examples of cases that demanded the mobilization of different public offices' agents, civilian and military to respond to complex problems.

⁴ The 1st edition of Interagency Coordination and Planning Course was concluded in October 29th, 2021 (BRASIL, 2021a).

⁵ The Program of Integrated Bonder Protection was instituted by the decree No. 8.903 on November 16th, 2016 (BRASIL, 2016).

⁶ Meurer e Lins (2016) consider as big sportive events the Pan American Games of 2007; the Confederations Cup of 2013; the World Cup of 2014; and the Olympic Games of 2016.

Therefore, this paper addresses the contributions resulted from the analysis of three episodes to the development of interagency operations and its doctrine.

From a literature review and documental analysis, we intended to obtain teachings and to shed light on a time gap previous from the 1st edition of “Interagency Operations” Manual (BRASIL, 2012a), which was published by Defense Ministry in 2012 and, thus, make some considerations about the future of interagency operations in Brazil.

Briefly after the Pan American Games of 2007, preceding the Confederations Cup of 2013, the World Cup of 2014 and the Olympic Games of 2016, the referred manual was published and it seemed to have consolidated a tendency punctuated by a growth of complex problems faced by the State⁷ to which no public entity has means of providing solutions “that rely on the efforts of a single specific institution” (GARCIA, 2014, p.72, our translation); which requires, therefore, specific doctrines to their solutions and points out to a bigger institutionalization among the interagency relations in the country.

For this matter, we can infer that the demands for interagency operations must be intensified, as well as the need for capacitation of their operators. That is something Smith (2000, p.29, our highlight) had already foreseen, by the end of the twentieth century, on his work on the search for interagency coordination by means of operators’ training and education:

Training is an important tool to prepare units and individuals for execution of interagency operations. Likewise, education provides the knowledge base necessary for agencies and the government to further develop the interagency response.

Such reference highlights the relevance of the research object of this study and a past look at complex interagency operations, either by the comprehension of the ongoing process or by the future prospection that foresees a better preparation for their operators to plan and execute interagency actions.

It is important to add that there is already a significant theoretical production on the Brazilian academic field about the interagency issue notably focused on the most recent operations such as “Sentinela” (GOMES FILHO, 2019), “Ágata” (ZAIA, 2013) and “Fronteira Blindada” (COSTA, 2019).

⁷ Listed by Figueiredo and Moreira (2022) as transnational crimes of any order, frequent environmental disasters, sanitary epidemic, migratory crisis, etc.

However, we lack studies aimed at clarifying the past in search for the path which created the need for more structured interagency relations, those that could ease up the operators' work and, possibly, generate a demand for specific courses on this issue. Moreover, studying the aspects of interagency relations within the previous operations may allow us to better understand this ongoing process and prospect the future.

For this, the following section revisits the past aiming at showing that interagency operations are part of the Brazilian routine for over 62 years and that those experiences, well succeeded or not, have set the bases to the process which, now, advances into a higher formalization of interagency relations among agencies to work together.

INTERAGENCY OPERATIONS IN BRAZIL: CONTEXTUALIZING THE DEBATE

The execution of interagency operations in Brazil precedes the consolidation of this term in the scope of the national public policies, even though it is not possible to precise a landmark which indicates its customary usage.

On the other hand, we may determine the moment that the word "agency" arises to mean a governmental body regarding competences and functions. This landmark happened in 1998 (RAZA, 2012), in the scope of the law No. 9.649 which disposes on the Republic Presidency and Ministries to organize and deal with the creation of regulatory agencies.

Nevertheless, the "interagency derivation" emerges, according to Araujo Neto, Barp and Cardoso (2017), in the military field with the publication of manuals⁸ on interagency operations, as of 2012, which were edited by the Brazilian Armed Forces, following, according to Figueiredo and Moreira (2022), a present tendency observed in their American peers, which were edited as of the early 1990s⁹.

In spite of the terminology usage, the operations with interagency characteristics to solve complex problems had already occurred within the country since the mid-1960s, although they were not denominated in such way. The rescue operation to help the ones affected by the rain in Caraguatatuba, São Paulo (1967); the radiologic accident in Goiânia (1987);

⁸ MD33-M12: Operações Interagências (2012); and EB20-MC-10.201: Operações em Ambiente Interagências (2013).

⁹ American manuals about the interagency issue published as of the 1990s: Joint Publication 3-08. Interagency Coordination during Joint Operations (1996), further renamed as Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination during Joint Operations (2006); e Joint Publication 3-33. Joint Forces Capabilities (1999).

and “Operação Serrana” (2011), Rio de Janeiro, in response to the heavy rain fallen in the city of this region, are examples that bring mutual common features: the union of efforts from different public entities, civilian and military – sometimes in a disorderly way – to promote response to dramatic episodes of national life. Another convergent aspect is that all of them occurred before the release of “Interagency Operations” Manual. (BRASIL, 2012a). Also, those episodes have interesting singularities regarding the established interagency arrangements; and for those reasons, they were chosen to be analyzed in this paper.

It is interesting to point out that, despite the time gap of 40 years among the aforementioned events, the relation problems among the agencies over the response operations to crisis are remarkable and typically characteristic of the difficulties faced at interagency environments; for that matter, they are going to be scrutinized throughout this study.

We start first with the episode that became known as the hecatomb of Caraguatatuba, which is so far cataloged as one of the worst floods the country has ever faced (CORRÁ, 2017).

THE HECATOMB OF CARAGUATATUBA: ONE OF THE FIRST PRECURSORY EVENTS OF INTERAGENCY OPERATIONS IN BRAZIL

What happened was terrifying [...] in Caraguatatuba. It had been raining [...] for more than a month, but, at that Saturday’s dawn, it seems that the world had fallen down. The landslide noise that went on in Serra do Mar was scary. However, it was only in the morning, when the sun was risen, that we could evaluate what had happened in the city. The streets turned into rivers, destroyed houses, no water, energy, telephone, neither communication to the neighboring cities and Paraíba Valley. Many bridges which connected the city to the neighboring counties were taken by the power of the waters that came down from the hillsides [...]. Nobody could pass, nobody arrived or left. All of the accesses were either blocked or destroyed (BURIHAN, 2019, n.p, our translation).

The words above report the initial hours of the disaster that took place in Caraguatatuba. The heavy rainfalls that had hit that city – situated in the

north coastline of São Paulo State, on March 17th and 18th of 1967 – followed by huge landslides, made 436 fatal victims according to an editorial published by Corrá (2017), which listed the main tragedies occurred in the country up to 2017.

Taking interagency operations as they are defined in the Armed Forces Glossary (BRASIL, 2015), that is to say, the military interaction with other agencies in order to succeed at convergent goals which attend to the common good, and, due to the complexity of those operations that came after that episode, we may consider it as one of the first operations with interagency characteristics, involving the local police forces, the Firefighter Department, the State Highway Authority of São Paulo, the three Armed Forces, besides a relevant volunteer contingent (SILVA, 2012).

At the hecatomb scenario, the collected reports told that the first days after the event were the most critical ones. Caio Vecchio (2008) and Emilio Campi (2009), through their respective documentaries, show groups of volunteers in search for survivors and suffering from the lack of basic supplies such as water and food, since “the Army arrived only at the fourth or fifth day”¹⁰.

Other testimonials indicate that the aid had arrived in less time, maybe in two or three days (CORRÁ, 2017). Despite of the divergence, the fact is that the city had been initially isolated, without water or communication with the outside world and the disaster report only came to the capital because of an amateur radio that had been trying to reach for help randomly for hours (BURIHAN, 2019); when, according to Chastan, (1977, p. 50-51, our translation),

assistance and relief were provided to the victims primarily by the Navy Police, Air Base and Port Captaincy from Santos. Along with the firefighters that left by sea, 120 soldiers from the Public Force and a squad of soldiers from the State Air and Navy Police followed them. Also, there were six doctors and eleven nurses from the Municipal Emergency Unit of Santos. The oil tanker Mato Grosso and the tugboat Sabre shipped antibiotics, vaccines for tetanus, emergency medical supplies, equipment for small surgeries, blankets, clothes, food, reflectors, power generators, rubber life jackets, shoves, pickaxes, steel cables, etc.

¹⁰ Testimonial of Rodolfo Nogueira Neto, a survivor, to Emilio Campi in 2009.

According to Silva (2012, p.15, our translation), during these disaster early days,

the Army helped the residents to survive in the middle of so much water, dirty and mud. The roads that connected the cities of São José dos Campos and Ubatuba were blocked and soon the lack of water and food started to happen [...].

With the presence of the Public Power in the city, on March 27th, at about 9 days after the heavy rainfalls, it was decreed a State Intervention. The intervenor, who was designated by the government, was Lieutenant Colonel Mario Campos, a member of Public Force of São Paulo¹¹ that had, according to *O Estado de S. Paulo*, March 28th, 1967 (apud SILVA, 2012, p.154), authority granted by the governor to “maintain the public order, require and effect payment, regulate transportation, control the distribution of goods sent by the State and make the necessary arrangements to normalize life in the city”. In practice, the mayor, Geraldo Nogueira da Silva, was kept away from the operation coordinated by the commissioned intervenor.

Until Mario Campos was designated, it seemed to have an overlap of the operation tasks. Newspaper – *O Estado de S. Paulo*, on March 22nd of 1967 (apud SILVA, 2012, p. 131, our translation) – published that:

the military coordinated assistance. Army, Navy, and Aeronautics, besides the Public Force, continued commanding the relief operations to the victims from Caraguatatuba. Ships, helicopters, airplanes, squads, officers and soldiers were mobilized to attend the flagellated population, to transport goods, medication, people, and equipment, or recovering installations and roads.

The newspaper article allows us to have a glimpse on a certain confusion regarding the definitions of the performed functions within the rescue operations. The situation was faced with the State Intervention of the municipality, and the majority of decisions were put in Mario Campos’ hands when the city was divided into 4 distinct zones to execute the operations, according to the article published by *O Estado de S. Paulo* on March 29th of 1967 (apud SILVA, 2012, p.159).

¹¹ Until 1970, the State Military Police of São Paulo was called Public Force (ARQUIVO PÚBLICO DO ESTADO DE SÃO PAULO).

Still, during the emergency phase, the Recovery Office of Caraguatatuba was created, under the coordination of Hely Lopes Meirelles, Interior Secretary, whose task was to coordinate all of the city reconstruction activities (SILVA, 2012). While the rescue operation lasted at around 40 days (CORRÁ, 2017), the reconstruction was estimated to had lasted two years (SILVA, 2012).

Regarding the division of the most urgent tasks, the Armed Forces were responsible for, in the absence of Civil Defense which hadn't been instituted yet by that time, executing the rescue operations; promoting medical assistance to the survivors; and transporting people and materials by helicopters and ships, since the city did not have land access due to the blockade at the road Paraíbuna-Caraguatatuba (SILVA, 2012). According to Burihan (2019, n.p), most of what was necessary came by the sea "and the Navy, by means of its ships, brought water, food, medicaments and doctors".

The State entities tasks were attributed as follow: The Public Force of São Paulo was responsible for policing the city, transporting material, distributing goods, and supporting the firefighters, who were focused on the rescue actions; the State Highway Authority was supposed to act on the roads, either to save people after the landslides or to clear up and repair the highways (SILVA, 2012).

From the reports gathered, the role performed by the State's entities is protagonist in comparison to the actions executed by the Armed Forces. Some survivors mention the firefighter and policemen acting at the operation front-line while the Army was used as logistics support (SILVA, 2012, p.178, our translation):

Actually, the Army, they provided the assistance on the construction of a bridge over Santo Antônio river, next to Santa Casa. There wasn't a massive presence of the Army in Caraguá. The Firefighter Department had a much stronger presence. The people of Military Police from Santos, in a more ostensive work, right. The Army [...] [just] at first [...] ¹².

The State Forces' protagonism at the referred disaster is comprehensible because the coordination of this operation belonged to their government. Nonetheless, such usage was not fully effective due to some structural problems of the involved entities in the operation. Veiga Junior (2015, p.20) mentions the "lack of disaster prevention culture, especially due to the lack of appropriate equipment for the Firefighter Department" in order to respond to the emergencies back at that time, as well as the lack of a crisis prevention and management plan.

¹² Testimonial of Ronaldo Fachini to Vitória Barreto da Silva in 2012.

Beyond the priceless human losses and material ones¹³, we may infer the following as learned lessons from interagency operations: an obligation to have a specialized agency at such operations and also a previous plan to be put into practice when necessary. In fact, the State Civil Defense of São Paulo was created in 1976 (VEIGA JUNIOR, 2015) still under the impact of those events from Caraguatatuba (CORRÁ, 2017).

Moreover, it is exemplified in this episode the need for a more refined degree of coordination when it comes to operations of such nature, whereas voluntarism, although very necessary at the first, is not enough when dealing with complex problems.

Indeed, it is crucial to point out that the relevance of interagency operations is already established currently. Figueiredo and Moreira (2022) consider it as one of the main categories of interagency relations. They are also necessary to the accomplishment of a mission, according to the Brazilian Army Campaign of Interagency Operations manual (BRASIL, 2020) statement which corroborates with Santos Filho (2013, p.32, our translation and highlight) because “acquired experiences at the interagency environment demonstrate that the coordinated acting of diverse vectors, either civilian or military, is **essential** to ensure that the mission goals are fully accomplished”.

Having that in mind, concerning the operation in Caraguatatuba, we infer that the interagency arrangement, which had been altered by the intervention of Mário Campos during the ongoing work, may be considered one of the first experiences on field on how to lead a more sophisticated coordination to solve complex problems.

However, a good coordination is not obtained from only an appropriate arrangement in order to constitute interagency work. It also demands a systematized planning so that the coordination becomes effective during the execution of the operation, which was lacking in Veiga Junior’s point of view (2015).

In the next topic, the Cesium-137 event, a radiologic accident that occurred in Goiânia, at about twenty years after the hecatomb in Caraguatatuba, we are going to step further into the debate on interagency planning.

¹³ At the end of the rescue operation, many bodies were found, being *a posteriori*, considered as dead (CORRÁ, 2017), as a survivor reported to Caio Vecchi, “[...] and here the buried ones are[...] the ones who were found here. There were nine people here and three remain missing. Three of mine [...]. One was fifteen, the other was twelve and another was six months [...].”

THE RADIOLOGIC ACCIDENT IN GOIÂNIA: INAPPROPRIATE PLANNING AND IMPROVISATION IN INTERAGENCY OPERATIONS

'Auntie, come see the shiny little rock daddy brought
(RESENDE, 2017, n.p, our translation).

The words repeated by the aunt's girl, Leide das Neves – one of the four victims of the radiologic accident in Goiânia, as she remembers the episode, set the mood of the unfortunate consequences of “the worst world nuclear disaster since Chernobyl, in 1986, and the biggest radioactive accident that has ever happened out of a nuclear installation” (PAPPON, 2018, n.p).

In September of 1987, two waste collectors got into an abandoned clinic and came across a machinery which they dismantled. It was a radiotherapy unit used for treating cancer. A piece made by metal and lead.

As it was an ordinary piece of any kind of junk, they took it and brought it home. Days after that, the piece was fragmented and somehow ended up in several residences in Goiânia; one of them was where the girl, Leide das Neves, used to live (BARBOSA, 2009).

The shiny little rock was actually a fragment of Cesium-137, contaminating 249 people throughout it passed (RESENDE, 2017) and unleashed one of the most complex operations this country had ever faced in the twentieth century, which demanded civil and military participation along with several federal and local entities¹⁴; also involved the International Atomic Energy Agency (IAEA), besides bilateral contacts with Argentina, France, Germany, the former Soviet Union, and the United States in order to send to Brazil radioprotection and medicine specialists (ALVES, 1988).

Denominated as “Operação Césio” (VIEIRA, 2013, p.220), in response to the accident, it was onset on September 30th of 1987, one day after the Nuclear Energy National Committee (CNEN) got the notification and circa 16 days after the material collected at the former “Instituto Goiano de Radioterapia”. The operation would last up to December 21st of that same year (ALVES, 1988).

The interagency work developed at that time monitored 112.800 people suspected of contamination and relied on 720 professionals participating during the monitoring and decontamination phases. As a

¹⁴ Nuclear Energy National Committee (CNEN), Federal Police, Furnas Electric Centers, Nuclebrás, Civil Defense of Goiás, Sanitary Control of Goiás, Military Police of Goiás, Firefighter Department of Goiás, Environment State Superintendence of Goiás, Brazilian Navy, Brazilian Army, Brazilian Air Force, Agriculture Ministry, Labor Ministry and Health Ministry, among others (ALVES, 1988).

consequence, 20 people were sent to clinical treatment (ALVES, 1988).

It was not accounted the total number of people who participated throughout the phases of this operation at that time due to the number of different entities that were spread across the country. Nevertheless, the participation of both the Armed Forces and the Military Police, along with the Firefighter Department of Goiás, is well documented (ALVES, 1988) in “Operação Césio”.

The Brazilian Army was responsible for preparing the technicians to work on the areas affected by the radiation by means of the Chemical War Company from the Specialized Instruction School in Rio de Janeiro; The Navy was supposed to host and treat the patients who were considered in serious condition at the installations of the Navy Hospital Marcílio Dias, also in Rio de Janeiro; The Brazilian Air Force was to transport contaminated people and bring back victims to Goiás; The local entities such as Military Police and the Firefighter Department of Goiás acted directly over the contaminated areas of the capital (ALVES, 1988), having, therefore, their crew more exposed to the radioactive contamination (PAULO, 2018).

With regards to the supervision flaws that let the radioactive material remains at the abandoned construction and to the delay in the event communication (VIEIRA, 2013), we can say that there was an emergency plan that was put into operation as soon as CNEN was informed of the accident (ALVES, 1988). The committee report to the National Congress in 1988 attests that its existence avoided a bigger disaster:

CNEN was informed at 3pm, on September 29th, that there were contaminated areas and people who had symptoms of radiation exposition and so provided: immediate medical assistance to the victims, people monitoring, accident reconstitution, and an evaluation on the environmental impact. The obtained data from declarations of the people involved in the accident was confronted with the medical evaluations and radiometry of the affected areas, which allowed the elaboration of certain procedures to attend to the victims and operate the decontamination of those areas. These procedures aimed at attending primarily the victims and minimize the critical ways other people could be affected by the radioactive exposition or contamination (ALVES, 1988, n.p, our translation).

However, it is known that the plan itself cannot ensure the success of the operation (QUARANTELLI, 2005), being just one of the steps so that interagency relations can happen (WARMINGTON, 2004) (MOYNIHAN, 2005) to carry out the actions and ramifications .

In spite of the emergency plan mentioned by Alves (1988), there was, according to Barbosa (2009), certain improvisation at the execution, that might have provoked mistakes that exposed people who worked in the operation to the contamination, among other problems. The testimonial of Valdir de Oliveira, Lieutenant in Military Police of Goiás, to Paulo (2018, n.p, our translation), illustrates well what had happened:

We were human guinea pigs [...]. The outfit we wore was nothing more than the uniform. We did not have any equipment. The Army arrived there, stayed for 40 minutes and their commandant immediately ordered them out. There were just the Military Police [...]. I felt like a research animal. We were thrown there.

What Lieutenant Valdir said made it clear that there was neither appropriate preparation nor training for the execution of “Operação Césio” because, according to Schirmer, Gomes and Recio (2018, p.2, our translation and highlight), the present emergency plan at that time did not contemplate the scenario which took place in Goiânia:

When it comes to respond to an emergency situation [...] two situations were predominant: an emergency plan covering accident at the Nuclear Center Admiral Álvaro Alberto - Unit I (CNAAA – I) and a second one attending a small scale accident like the ones that may happen during the transportation of radioactive materials or industrial stuff. **It is important to emphasize that the situation presented in Goiânia was not thought of in none of those plans mentioned above.** This way, the planning, actions and decisions had to be evaluated rapidly and they were taken according to the human and material resources available at each of the accident phases.

In other words, there was a generic plan that did not meet the specificities of a city the size of Goiânia and there was neither preparation nor previous training to execute “Operação Césio”, the precondition expected from an interagency operation, in Smith’s perception (2000).

Yet, it is crucial to point out that the lack of an appropriate plan – when it comes to the reality faced in Goiânia – made it more difficult for the interagency relations to operate in an effective way. It also impacted the operation execution itself, since interagency planning is considered, along with its coordination, one of the main categories of these relations (FIGUEIREDO; MOREIRA, 2022).

That being said, the partial conclusion concerning “Operação Césio” infers that the interagency arrangement was not the ideal for that matter due to some gaps and inadequacy of the plan, as well as the lack of previous preparation to execute the operation. And, in this way, as a learned lesson from that episode, we consider the need for agencies to plan the actions/operations together beforehand. Such planning depends on a previous capacitation, which promotes a minimum common comprehension before anyone acts on the field.

In next topic, “Operação Serrana 2011”, we will deepen the debate about coordination and planning as both Rothier (2011) and Busch and Amorim (2011), point out flaws in the interagency relations which were perpetrated during the ongoing operation.

“OPERAÇÃO SERRANA” IN RIO DE JANEIRO: PROMPT RESPONSE AND LITTLE EFFECTIVENESS REGARDING THE INTERAGENCY ACTIONS

Between the night of January 11th and the dawn of January 12th of 2011, the rainfall was pretty intense over the mountain region in Rio de Janeiro (BANCO MUNDIAL, 2012):

The combination of heavy rainfall with the region-specific geologic conditions was a major factor to determine the disaster: a torrent of mud, rocks, trees, and litter poured down the hill dragging everything on its way. [...] [In that] route there were dozens of properties, from favela houses to high class ones and hotels. The rainfalls also elevated the water level at the rivers’ headwaters at the top of the mountains; what led the rivers to flood and the city inundation. That way,

streets were covered by a sea of mud, which resulted in the destruction of houses, car pilings and many deaths. Moreover, the fall of bridges and roads left the cities isolated, an aspect that aggravated the locals' situation who no longer could rely on the essential basic services such as drinkable water, energy, and any kind of communication (MOREIRA, 2018, p. 395).

Moreira's description (2018) shows a scenario which resulted in 918 fatal victims. Many of them, similar to the hecatomb in Caraguatatuba, never had their bodies recovered by the authorities (BARBON, 2022)¹⁵. The consequences also included a material loss of R\$4,78 billion, according to the World Bank estimation (2012).

According to Costa *et al* (2015), the impact of this tragedy, which knocked down the region, mobilized the State Government, the City Halls affected by the disaster, Civil Defense, National Security Force, Firefighter Department and Armed Forces, etc., in a fast response to what had happened.

The reaction occurred immediately in the early hours at the local level; on January 13th with the aid of Fluminense State entities; and on January 14th, with the Federal entities, after the Ministry Directive No 001(BUSCH; AMORIM, 2011) was published by the Defense Ministry (BRASIL, 2011), which onset "Operação Serrana" whose effective counted with 1.200 military (BRASIL, 2012b).

The Armed Forces were supposed to take on the following tasks: the Brazilian Army should distribute remedies, food, and donations in general, also execute the searches and rescues, besides opening the blocked routes (SILVA JUNIOR, 2017); the Brazilian Navy should support both National Security Force and Firefighter Department to build and operate a campaign hospital and execute the distribution of donations in Nova Friburgo (MOREIRA, 2018); finally, the Brazilian Air Force was to transport supplies (OLIVEIRA, 2015) and build/operate a campaign hospital in Itaipava (MICELI, 2011).

The State entities, Civil Defense, and Firefighter Department were responsible for the rescue and assistance to the victims, but also for clearing up roads while Municipality Civil Defenses were supposed to

¹⁵ Up to the beginning of 2022, 99 bodies still remained missing according to State Government. However, Municipalities estimate 307 missing (BARBON, 2022).

monitor risky areas and start the demolition of the constructions damaged by the floods (BUSCH; AMORIM, 2011).

The most delicate aspect of this operation was the interagency arrangement set among the Municipality, State and Federal entities which did not foresee a unified coordination of the actions (BUSCH; AMORIM, 2011). Lieutenant General Oswaldo de Jesus Ferreira was exclusively designated as coordinator for the military troop (BUSCH; AMORIM, 2011). In terms of the other Municipality and State entities, the relation set was of cooperation as previewed in a directive from the Defense Ministry (BRASIL, 2011) and there was not any interference between the actions executed by both State and Municipalities (BUSCH; AMORIM, 2011).

Despite of the State presence since the early moments of this tragedy, the interagency arrangement did not achieved the “necessary effectiveness” (BUSCH; AMORIM, 2011, p.13) due to the lack of a more appropriated coordination so that complex problem could be better tackled.

Since the beginning of this tragedy – from the onset of this operation to its closure – what is observed in many studies, which cover this issue, is that (BUSCH; AMORIM, 2011) (MOREIRA, 2018) (FIGUEIREDO; MOREIRA, 2022), the actions were executed without a central coordination. Many agents performed disarticulated actions that were, sometimes, either redundant or unplanned.

According to Costa *et al* (2015), the diverse entities’ operations during the early days of the response happened in a disconnected way and, sometimes, there was the overlap of efforts due to working on the solution for the same problem rather than other urgent matters as well.

Another aspect that got criticized was the poor institutionalization of the relations and the lack of a previous plan to tackle the tragedy. Moreira (2018, p.399-401, our translation), in his article about “Operação Serrana”, while interviewing Brazilian Navy officers who worked on the victims’ assistance of the floods in Nova Friburgo, makes it clear that

the testimonial analysis allows us to identify informal relations that were established among [...] [the] involved agencies responding to the disaster [...] [which may have] interacted and executed a unified work; [...] these relations happened spontaneously, but not in an institutionalized way and they were not oriented by a common planning. [...] The [...] testimonial conveys the need for a plan of actions to confront disasters.

The problem related to the plan also was pointed out in an interview given to Rothier (2011) by Margareta Wahlström, former United Nations Organization Under-Secretary to Disaster Risk Reduction at that time, who affirmed that the tragedy at “Região Serrana” was bigger, mainly, due to the absence of a planning of those involved entities in the prevention and response to disaster in the country.

As there was not a previous planning, and the tragedy was minimized by the action of the local administrators as it may be observed in Busch e Amorim’s report (2011, p.13):

During the first moments of this tragedy, in the middle of a total disarticulation, the mayor of Areal took on a creative attitude. As he became aware of the rainfalls that were flooding the cities, he made an “high alert call” using a sound car and with the aid of the local radio station from which they asked the population to evacuate the margins of both rivers that crossed the municipality and to leave to a safe place. Eighty houses were destroyed, 300 people became homeless, but nobody died in Areal where 10 thousand habitants lived.

In other municipalities, the reality was different in terms of fatal victims: Nova Friburgo, 428; Teresópolis, 387; and Petrópolis, 71 (STRICKLAND, 2022), which reinforces the thesis that each mayor acted their own way, having no support of a previous planning for that region.

Anyway, despite of the work and effort of those who participated at “Operação Serrana”, we may infer that, in general, the option for an interagency arrangement did not have a central coordination and it needed more formal relations among the agents involved. That contributed heavily to the waste of efforts and assistance lacking in several different demands of such big operation. Moreover, the lack of a previous planning, which would have covered all the involved entities at this operation, notoriously affected the early response to the disaster as illustrated in Busch e Amorim (2011).

The learned lessons from this episode indicate that, beyond the State fast response in this case, it is still necessary to achieve a more sophisticated coordination degree and also elaborate a plan of response which has been previously tested. For that matter, it becomes even more relevant that we perfect the interagency operators’ capacitation, offering,

according to Smith (2000), among other expertise, a common lexicon for the planning and execution of operations such as that one. Providing, thus, a major institutionalization of the interagency relations, what may contribute to deflagrated operations – at similar moments such as the one lived in 2011, in “Região Serrana” in Rio de Janeiro – to go forward in a more structured way and to achieve better results.

Coming next, the following topic will deal with the future perspectives of the interagency operations in the country, since there are no indications that complex problems such as the ones described here will disappear at short-term.

FINAL CONSIDERATIONS: PROSPECTING THE FUTURE OF INTERAGENCY OPERATIONS

The present study, through the analysis of episodes which demanded the execution of interagency operations such as the tragedies in Caraguatatuba (1967), Goiânia (1987) and “Região Serrana” in Rio de Janeiro (2011), aimed at listing some learned lessons that could have contributed to the process, which resulted in the launch of the first interagency doctrine in the country.

A literature review and documental analysis conducted in this study intended to shed light on a time gap previous from the 1st edition of “Interagency Operations” Manual publication by Defense Ministry (BRASIL, 2012a) to highlight some considerations about the future of interagency operations in Brazil.

It was observed, throughout the operations, that some problems hampered a better effectiveness at employing both Civilian and Military institutions, in order to work out the solution to the complex issues faced at that time.

In the case of Caraguatatuba, it was evident that the difficulties resulted from the absence of an entity that had such competences as the Civil Defense in order to act front-line at disaster situations. Also, it became explicit the difficulty of coordination among operations, which might have influenced the State Intervention over that municipality. However, in “Operação Césio”, it is inferred that the interagency arrangement was not the ideal one due to both the plan gaps/inadequacies and lack of previous preparation to the operation execution, what could have been minimized if there was a previous and unified planning. Such planning, in turn, depends on a further capacitation which provides a minimum common comprehension among the agencies before their actions on the field. Finally, in the case of “Operação Serrana”, the recurrence of the disasters makes us believe that “they will keep on happening, producing social life

ruptures in certain geographic areas with aggravating impacts over specific social groups” (FIGUEIREDO; MOREIRA, 2022, p.289, our translation).

The range of complex problems confronted by the Brazilian State has increased since the release of the first interagency manuals by Armed Forces in 2010's. To illustrate, considering only the summer of 2021-2022, the floods affected severely over 11 States in the country (RUAS, 2022), which included, again, “Região Serrana” in Rio de Janeiro. It is important to observe that, regarding this aspect, in May of 2022, the State of Pernambuco, specially the cities of Recife, Jaboatão, Olinda, and Camaragibe, suffered with the heavy rainfalls that led to landslides and torrents, resulting in more than 100 fatal victims (PONTIM, 2022).

This recurrent scenario imposes the need for the execution of routine interagency operations, which demands a doctrine review (that has been updated in the last years¹⁶ by both the Defense Ministry and Brazilian Army). About these manuals, there are some concerns regarding their adaptability to problems that involves other agencies, especially when it comes to the relations of command and coordination during the operations (ARAUJO NETO, 2017). This way, perhaps in the near future, it is necessary to produce a more flexible doctrine which can be adaptable and used by the other agencies when not operated by the military.

In spite of the attempt of producing a more appropriated doctrine to the reality that interagency operators usually face, there are still some initiatives focused at ensuring capacitation so that personnel from the agencies can co-work with or without the military.

Moreover, it has been currently observed that the formation of interagency *ad hoc* teams, in order to solve urgent and complex problems, is carried out not only without a previous preparation of their members, but also without the existence of a common language due to the unified planning, what brings about delays, misunderstandings and, sometimes, miscomprehension (FIELD, 2021). The accurate formation of interagency relations, which allows the application of different operators in coordinated arrangements, is still an exception, having informality as the general rule, as Moreira (2018) indicates.

Also, the previous planning remains a demand to be confronted by the public agents, since there are flaws at the interagency teams' preparation due to action in similar situations that had already happened

¹⁶ Interagency Operation Manual MD-33-12 (BRASIL, 2017) and Interagency Operation Campaign Manual EB70-MC-10.248 (BRASIL, 2020).

in the past. The most significant and recent example regards the heavy rains that hit “Região Serrana” in Rio de Janeiro, killing 233 people in February of 2022, circa 11 years after “Operação Serrana” (MARQUES, 2022).

Despite of all the learned lessons from the tragedy in 2011, Professor Leandro Torres, specialist in Emergency and Disasters Management, in his testimonial to Rocha (2022, n.p), understands that “good practices have been tested and implemented successfully, but there is not a general approach yet. The plan conception should be expanded”. He also emphasized the need for capacitation for the ones involved at responding to the disasters.

The appropriated capacitation, in order to create a better interagency practice, is also considered by Araujo Neto (2017, p.36), who understands that

an interagency capacitation infrastructure, supported by Federal agencies and entities, may configure itself as one of the major foundations to the development of a better interagency cooperation [...]. There must be a reference doctrine, amplitude at people capacitation, strict training, and focused evaluation. Actually, the evaluation results must feed the system so that it can be refined, having this cycle repeated over time. It is past the time for all the Brazilian Government to consider the interagency capacitation in a more realistic way, taking advantage of the existent infrastructure, best practices, and educational technologies. The security of Brazil may rely on it.

This way, the creation of other training and capac courses may indicate a path for future operations, whereas it is no longer admissible the reunion of agencies just at moments of crisis.

The examples from the past already indicated the need for previous preparation in order to make interagency relations effective. The recent demands have confirmed that the future relies in the education of operators in the search for better results regarding interagency operations practices, whether by the creation of a common lexicon that helps in the work or the production of a reference doctrine that can be used by the agencies of the Brazilian State.

OPERAÇÕES INTERAGÊNCIAS EM ANÁLISE: APRENDENDO COM EPISÓDIOS EM CARAGUATATUBA, GOIÂNIA E RIO DE JANEIRO

RESUMO

Este artigo aborda o processo de aprendizagem relacionado ao desenvolvimento da operação interinstitucional e sua doutrina resultante da análise de três episódios: a hecatombe em Caraguatatuba, o acidente radiológico com césio-137 em Goiânia, e o desastre na região serrana do Rio de Janeiro. A revisão da literatura e a análise documental realizadas neste trabalho visam obter ensinamentos e lançar luz sobre uma lacuna temporal anterior à 1ª edição do Manual “Operações Interinstitucionais” (BRASIL, 2012a), publicado pelo Ministério da Defesa em 2012. Os resultados deste estudo apontam problemas que dificultaram a efetividade quanto à mobilização de instituições civis e militares para resolver as complexas questões enfrentadas na época dos episódios. Assim, concluímos pela necessidade de capacitação quanto a uma melhor prática de interagências que pode ser viabilizada por meio de cursos e treinamentos, nos quais possam ser abordados os rumos futuros dessas operações, não sendo aconselhável a reunião de agências exclusivamente em momentos de crise.

Palavras-chaves: Desastres; Aprendizado; Interagências.

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