

COLLABORATIVE RESILIENCE: A NEW MILITARY CAPABILITY OF THE PORTUGUESE ARMED FORCES¹

RESILIÊNCIA COLABORATIVA: UMA NOVA CAPACIDADE DAS FORÇAS ARMADAS PORTUGUESAS

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Abstract

As a result of the new strategy of the North Atlantic Treaty Organization, in which resilience is a key element for credible Deterrence and Defence, Portugal has committed to developing national resilience against the full spectrum of threats. This study aims to transpose the Alliance's Collaborative Resilience concept to the Portuguese Armed Forces. The study uses an inductive reasoning methodology and a mixed research strategy, which combines a qualitative approach with quantitative elements, a case study research design supported by data collected through a literature review, a survey and four interviews. The findings suggest that one of the challenges that the Armed Forces must overcome to fulfil Portugal's NATO commitments is implementing a Collaborative Resilience capability. This will require transposing the Alliance's concept by building a new military capability. This study identified six lines of effort that must be implemented, as well as the basic elements for each component of the future military resilience capability. As this capability will be built collaboratively by the military, the public and the private sectors, it will require political, financial and legal support from the Ministry.

Keywords: NATO Resilience; Collaborative Resilience; National Resilience; Baseline Requirements; Commitment to Enhance Resilience.

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Resumo

Portugal comprometeu-se a desenvolver a resiliência nacional contra todo o espectro de ameaças, como resultado de uma nova estratégia adotada pela North Atlantic Treaty Organization, em que a resiliência se constitui como um elemento primordial na prossecução de uma Dissuasão e Defesa credíveis. Tendo como objetivo propor a transposição do conceito de Resiliência Colaborativa da Aliança para as Forças Armadas Portuguesas, este estudo baseou-se num raciocínio indutivo, assente numa estratégia de investigação mista, de âmbito qualitativo com reforço quantitativo, num desenho de pesquisa de estudo de caso, com recolha de dados através de análise documental, de um questionário e de quatro entrevistas. Os resultados sugerem que, no âmbito do compromisso assumido por Portugal, um dos desafios colocados às Forças Armadas é a implementação da capacidade de Resiliência Colaborativa, pelo que a transposição do conceito da Aliança, constitui-se como o processo a aplicar. Neste âmbito, identificaram-se seis linhas de esforço a implementar e os elementos base para cada componente da futura capacidade militar de resiliência. Conclui-se que, sendo uma capacidade que se edifica de forma colaborativa entre os setores militar, público e privado, o envolvimento da tutela aos níveis político, financeiro e legal, é determinante para a sua implementação.

Palavras-chave: *Resiliência NATO; Resiliência Colaborativa; Resiliência Nacional; Requisitos Base; Compromisso da Cimeira de Varsóvia.*

1. Introduction

The unpredictability and uncertainty of today's geostrategic environment have led the North Atlantic Treaty Organization (NATO) to adopt a new strategy in which the concept of resilience is critical for a credible Deterrence and Defence as well as to fulfill the Alliance's Core Tasks (NATO, 2016a).

It was against this background that the Heads of State and Government of the NATO countries took up the Commitment to Enhance Resilience at the 2016 Warsaw Summit, where they committed to developing their countries' resilience against the full spectrum of threats, including hybrid threats (NATO, 2016a). This strategic choice was reinforced at the 2019 London meeting, where the Alliance reaffirmed its commitment to enhancing resilience in society, critical infrastructures and energy (NATO, 2019a), thereby strengthening States' political willingness to develop their resilience.

More recently, at a Defence Ministers meeting that took place on 15 April, the NATO Secretary General stated that, to overcome the challenges that the COVID-19² pandemic poses to NATO's resilience, the Allies must build resilience in their societies. A set of recommendations was approved to guide those efforts (NATO, 2020a).

The Alliance's strategy to develop resilience focuses on Civil Preparedness (CivPre) and outlines seven Baseline Requirements (BR) of national resilience, which focus on assuring continuity of government, continuity of critical government services and support to military forces using civilian means (NATO, 2016b). Portugal has committed to meeting these requirements.

² Disease caused by the new coronavirus / SARS-CoV-2 / 2019-nCoV (Machado, 2020).

From a military perspective, this renewed emphasis on resilience stems from the recognition that the Armed Forces (AAFF) of Allied countries are more dependent than ever on capabilities and infrastructures that belong to and / or are operated by the civilian sector, as well as from the fact that civilian services and infrastructure are potentially vulnerable to external attacks or internal disruptions and have vulnerabilities that can be exploited by potential enemies (Meyer-Minnemann, n.d., p.1). This means that more resilient nations make for less attractive targets because an attack against them is less likely to be successful, which in turn increases a nation's deterrence capacity (Allied Command Transformation [ACT], 2019, p.A-6).

In the Alliance, the principle of resilience is based on Article 3 of the NATO Treaty, which supplements the section on Collective Defence (Article 5) (NATO, 2020b). The article states that “in order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly [...] will maintain and develop, [...] their individual and collective capacity to resist armed attack” (NATO, 1949).

The underlying rationale is that resilience is an individual responsibility of each Ally, and that each nation must ensure that it is sufficiently robust and adaptable to withstand the full spectrum of crises envisaged by NATO (NATO, 2020b). In the context of the Alliance, collective resilience, much like collective defence, is built on the resilience of each Ally. Therefore, Portugal must develop its resilience by honouring the commitment it made in Warsaw.

At the national level, the AAFF are “an essential component of state security” (Council of Ministers Resolution No. 19/2013 of 5 April) and an integral and essential element in assuring and developing national resilience.

With regards to the AAFF, NATO has developed doctrine on the concept of resilience and issued guidelines to help States develop their resilience.

However, the literature review and exploratory interviews conducted in the exploratory phase revealed that the AAFF have not implemented resilience in a systematic and organized way. This is the problem that this study aims to address.

Therefore, even though the concept of Collaborative Resilience (CoRe) – which focuses on military operations in a Collective Defence context (ACT, 2019, p.A-4) – is still being developed by the ACT, it is nevertheless a key concept which the AAFF must implement, both to enhance the ability to respond to threats and to align with current and future NATO requirements.

As a NATO member with limited material, financial and human resources, by implementing CoRe, Portugal will not only strengthen its national resilience and bolster the Alliance's collective resilience and collective deterrence and defence, it will also improve its reputation with NATO. This will place Portugal at the forefront of the efforts to develop the concept and in a position to influence this development due to the lessons learned and best practices developed by implementing it at national level.

Transposing CoRe to the Portuguese AAFF as a new military capability (in line with the NATO framework) is, thus, essential to the national response to the Commitment to Enhance Resilience.

This study addresses CoRe as a military capability, and is delimited (Santos & Lima, 2019, pp.41-55):

- In terms of time, to the period between the NATO Warsaw Summit and the present day (2016-2020);
- In terms of space, to the Portuguese territory;
- In terms of content, to the NATO documents that frame CoRe and its transposition to the AAFP as a new military capability.

The study's General Objective (GO), the Specific Objectives (SO) and the Research Question (RQ) are outlined in Table 1.

Table 1 – Objectives and RQ

General Objective
To propose that the NATO concept of Collaborative Resilience be transposed to the Portuguese AAFP by building a new military capability.
Specific Objectives
SO1: To analyse the concept of Collaborative Resilience as a military capability.
SO2: To analyse how the Portuguese AAFP's can help build national resilience vis-à-vis Portugal's commitment to NATO.
SO3: To analyse the implementation status of the NATO concept of resilience in the Portuguese AAFP.
Research Question
How can the NATO concept of Collaborative Resilience be transposed to the Portuguese AAFP by building a new military capability?

2. Theoretical and conceptual framework

This chapter presents the state-of-the-art, the key concepts and the analysis model.

2.1. State-of-the-art

When NATO integrated the concept of resilience, it represented a turning point in the way this political and military organization is aligning its strategy with a new paradigm for dealing with large-scale disruptions.

The illegal annexation of Crimea by Russia and the emergence of the Islamic State are two events that marked a change in the strategic environment that began in 2014. In response to this change and to the threats posed by terrorism, cyber attacks and hybrid attacks, the Alliance has strengthened its deterrence and defence posture. For this to happen, Allied countries' must enhance their resilience through CivPre (Roepke W-D. & Thankey H., 2019, p.1).

For much of the Cold War, CivPre (then called Civil Emergency Planning) was well organized and well funded by the Allies. This was reflected in NATO's organizational and command structure (Roepke W-D. & Thankey H., 2019, p.1). However, during the 1990s, both individual nations and the Alliance made substantial cuts to infrastructure and capabilities (Roepke W-D. & Thankey H., 2019, p.1). The effects of these cuts became evident when urgent action was needed to boost the Alliance's deterrence and defence capabilities by implementing the Readiness Action Plan presented at the Wales Summit in September 2014 in response to the annexation of Crimea (Meyer-Minnemann, n.d., p.2).

In many operations, the logistical support required to deploy and operate Alliance forces relies on civilian and commercial resources and infrastructure such as ports, airports and energy sources (NATO, 2020c). This reliance, while not always obvious, is nonetheless significant: about 90% of military transport relies on assets hired or requisitioned from the civilian sector, over 50% of satellite communications used for defence are provided by the civilian sector, and about 75% of support provided to forces deployed to NATO countries is provided by local infrastructure and services (ACT, 2019, p.A-5).

That is, as the Alliance's military capabilities can be attacked indirectly through civilian roles and services, enhancing national resilience by improving allies' CivPre is a critical component of NATO's effort to deter and defend against the full spectrum of threats (Meyer-Minnemann, n.d., p.1).

At the Warsaw Summit, the Allied countries expressed their willingness to continue to develop the individual and collective ability to resist all forms of armed attack and signed the Commitment to Enhance Resilience against the full spectrum of threats, including hybrid threats, viewing it as essential for credible deterrence and defence (NATO, 2016a). This resolution to build collective resilience was reaffirmed at the London meeting in 2019 (NATO, 2019a), and, more recently, at the meeting of Defence Ministers that took place on 15 April as part of the Alliance's response to the Corona Virus Disease 2019 (COVID-19) (NATO, 2020a).

Thus, CivPre is one of the central pillars of national resilience and the individual responsibility of each Allied country (NATO, 2016b). At the Warsaw Summit, the Allies committed to achieving the seven BR of national resilience, which focus on assuring continuity of government, continuity of critical government services and support to military forces using civilian means (NATO, 2016b). However, this commitment covers a broader range of actions, such as cooperating with the European Union (EU), investing in military capabilities to align them with NATO's Level of Ambition and the Cyber Defence Pledge, another commitment taken at the 2016 Warsaw Summit (NATO, 2016a).

As a NATO member, Portugal has committed to developing its national resilience and has carried out several actions to comply with the seven BR. The Alliance has assessed these actions on several occasions, most recently through the Defence Planning Capability Survey of 2019 (NATO, 2019b).

However, in Portugal this capability is still being developed and is thus not well defined. CivPre corresponds to Civil Emergency Planning (CEP) (J. Oliveira³, email, 21 April 2020), which currently falls under the purview of the National Emergency and Civil Protection Authority (ANEPC) (Decree-Law No. 45/2019 of 01 April) and is integrated in the National Civil Emergency Planning System (SNPCE), which is currently pending approval⁴.

The Alliance's efforts to build its collective resilience by developing the CoRe concept provide the AAFP with a unique opportunity to implement CoRe as a military capability. To determine how to do so is the goal of this study.

Having contextualised the topic, the next section will present the key concepts that inform the supporting conceptual framework.

³ National Director of the ANEPC.

⁴ It was approved in general terms by the Council of Ministers on 23 April 2020.

2.1.1. Collective resilience (NATO)

The concept of resilience⁵ has multiple meanings and applications due a process of interdisciplinary sedimentation that occurred over time. Thus, one of the greatest conceptual challenges of resilience is finding an operational definition for the concept (Rodrigues, 2018).

A study by the same author on financial shock in the Portuguese Navy (2011) describes resilience as a system's ability to restore adaptive processes, which have been interrupted by a disruptive shock by rightsizing a new structure. This empirical definition shows that resilience is not synonymous with adaptation, nor with operational continuity, rather it consists of rightsizing structures to adjust to a new adaptive normality (Vicente, 2018).

The analysis of NATO doctrine uncovered several definitions of resilience. Different documents have different wordings and no definition is provided in the NATO Glossary of Terms and Definitions, AAP-06 (NATO, 2019c).

Therefore, two definitions were selected based on the evolving context in which the concept is developing.

The Commitment to Enhance Resilience states that the Alliance's collective resilience essentially relies on the national resilience of each Ally (NATO, 2016a). Resilience is defined here as society's ability to withstand and recover easily from major shocks such as disasters, critical infrastructure failures or armed attacks using its CivPre and military capabilities (NATO, 2020b). In such an event, resilience rests on two pillars, CivPre and the AAFP, and it is mainly through CivPre that the seven BR of national resilience will be fulfilled. This is the concept of national resilience that will be used in this study.

The second definition includes a cycle of resilience consisting of four phases: preparation, absorption, recovery and adaptation (ACT, 2018, p.E-1). This cycle provides the basis for a more comprehensive and precise definition that can be used in military contexts, where resilience refers to the ability to survive and overcome strategic shocks (sudden and surprising events with military consequences, both intentional and unintentional) that push military capabilities beyond their breaking point and thus critically impair the ability to successfully conduct operations (ACT, 2019, p.A2). In this context, since resilience cannot be achieved through internal adaptation, shocks can be overcome by incorporating additional capabilities or by using non-military capabilities to achieve a given operational goal (ACT, 2019, p.A2).

⁵ The concept of resilience emerged in the field of materials science, was promoted in the field of psychology, ecology and socio-ecology, and was eventually adopted by international and national political organizations.

2.2. Analysis model

Table 2 – Analysis model

General Objective	To propose that the NATO concept of Collaborative Resilience be transposed to the Portuguese AAFP by building a new military capability.					
Specific Objectives	Research Question	How can the NATO concept of Collaborative Resilience be transposed to the Portuguese AAFP by building a new military capability?				
	Subsidiary Questions	Concepts	Dimensions	Variables	Indicators	Data collection techniques
SO1 To analyse the concept of Collaborative Resilience as a military capability.	SQ1 What does a Collaborative Resilience military capability consist of?	Collective resilience (NATO)	NATO	Collaborative	Vision	Literature review, survey and semi-structured interviews
					Key Ideas	
					Objectives	
					Lines of Effort	
					Actions to be taken	
					Policy / legislation	
					Doctrine	
					Organization	
					Training	
					Material resources	
					Leadership	
Personnel						
Infrastructures						
Interoperability						
SO2 To analyse how the Portuguese AAFP's can help build national resilience vis-à-vis Portugal's commitment to NATO.	SQ2 How can the Portuguese AAFP help build national resilience vis-à-vis Portugal's commitment to NATO?	Collective resilience (NATO)	National	Civil Preparedness	Continuity of government	Literature review, survey and semi-structured interviews
					Resilient energy supplies	
					Uncontrolled movement of people	
					Resilient food and water resources	
					Mass casualties	
					Resilient telecommunications networks	
					Resilient transportaton systems	
SO3 To analyse the implementation status of the NATO concept of resilience in the Portuguese AAFP.	SQ3 What is the implementation status of the NATO concept of resilience in the Portuguese AAFP?	Collective resilience (NATO)	National	Military	Doctrine	Literature review, survey and semi-structured interviews
					Organization	
					Training	
					Material resources	
					Leadership	
					Personnel	
					Infrastructures	
Interoperability						

3. Methodology and method

This chapter describes the methodology and methods used in this investigation.

3.1. Methodology

The study used an inductive reasoning methodology and a mixed research strategy, which combines a qualitative approach with quantitative elements, and a case study research design (Santos & Lima, 2019, pp.18-137).

The next section describes the study sample, procedures, data collection tools and data processing techniques.

3.1.1. Participants and procedure

Participants. The questionnaire was delivered to 44 AAFF officers (Table 3), distributed relatively evenly by the three branches (Navy, Army and Air Force), most of whom are senior officers (88.6%) who held a Division Head position at the time of the study or prior to it. The target population consisted mainly of officers who are Heads of Division (Generals – EMGFA; Senior Officers – Branches) and Unit Commanders (Senior Officers), as their responsibilities in developing doctrine and operationalising the AAFF’s efforts to develop national resilience, respectively, uniquely qualify them to answer SQ2.

Table 3 – Descriptive analysis of the sample

Variable	n	%
Categories		
General Officer	5	11.4
Senior Officer	39	88.6
“Branch”		
EMGFA	5	11.4
Navy	14	31.8
Army	15	34.1
Air Force	10	22.7
Role		
Unit commander (or equivalent)	16	36.3
Sub-unit commander (or equivalent)	3	6.8
Head of a General Staff Division (or equivalent)	19	43.2
Head of General Staff Office (or equivalent)	1	2.3
Head of Service	5	11.4

Four general officers participated in the study as interviewees: the Deputy for Planning and Coordination of the AAFF General Staff (EMGFA) (Vice Admiral Gouveia de Melo), the Deputy Chief of the Air Force Staff (Major General Teodorico Lopes), the Deputy Chief of the Navy Staff (Rear Admiral Soares Ribeiro), and the Coordinating Director of the Army Staff (Major General Maia Pereira). These officers are responsible for the planning and coordinating their respective General Staffs (the bodies responsible for analysing, designing and planning the activity of the EMGFA and the branches).

Procedure. The potential respondents to the questionnaire were contacted by email to inform them of the purpose of the study and to ask if they were interested in participating. The questionnaire was uploaded to Google Forms and sent to each participant by email in the week of 27 March 2020.

The interviewees were also contacted to ask if they were interested in participating in the study and were assured of anonymity and confidentiality of their answers (which all waived). They were then sent the script of the semi-structured interview by email.

3.1.2. Data collection instruments

Two instruments were built to collect the data. One was a questionnaire consisting of two parts: the first to collect sociodemographic data and the second to identify the capabilities, resources and actions of the AAFF and determine if they correspond to the seven BR of national resilience. The answers were scored on a five-point rating scale (“1” = the capability / resource / action “Does not contribute” and “5” = “Totally contributes”).

The other instrument consisted of a semi-structured interview script with 20 questions.

3.1.3. Data processing techniques

The questionnaire responses were subject to descriptive analysis using the software Statistical Package for the Social Sciences v.23 (SPSS) to calculate means (M) and standard deviations (SD).

The content analysis of the interviews was carried out as recommended by Sarmento (2013); that is, only categories with results of 50% or higher were considered validated.

4. Data presentation and discussion of results

This chapter analyses the collected data and provides an answer to the Subsidiary Questions (SQ) and the Research Question (RQ).

4.1. Collaborative Resilience as a military capability

4.1.1. Definition of the Collaborative Resilience Construct

NATO’s efforts to make the Alliance more resilient in the wake of the Warsaw Summit have focused on CivPre through the seven BR (ACT, 2019, p.A1), but do not include the creation of a military resilience capability. In fact, after 25 years of operations outside Allied territory, the type and extent of support which the civilian sector is expected to provide the military in case of a Collective Defence scenario has yet to be defined (ACT, 2019, p.A2).

The CoRe concept emerged out of this context. Against the background of this new strategic paradigm, which is an integral part of the Alliance’s efforts to develop its collective resilience, CoRe emerged as a response to the joint statement of the President of the European Council, the President of the European Commission and the NATO Secretary General on 08 July 2016 (ACT, 2019, p.1).

However, CoRe is being developed by the ACT in collaboration with the Allies and various other actors (the public, private, and military sectors, Centres of Excellence, among other stakeholders) (ACT, 2018, p.1), and its focus is on military operations in Collective Defence scenarios (ACT, 2019, p.A4).

The concept is based on the ACT’s definition of resilience and cycle of resilience introduced in section 2.1.1. of this study, and aims to provide a concise framework for understanding how to mitigate or exploit the interdependencies between the public, private and military sectors, which are essential to develop CoRe in military forces and thus bolster Collective Defence (ACT, 2019, p.A3).

CoRe is based on the vision of an Alliance capable of successfully and sustainably

executing operations by preparing, absorbing, recovering and adapting to unexpected or strategic shocks through resilient and streamlined structures, systems and processes, which are facilitated by ongoing collaboration between public, military and private agencies (ACT, 2019, p.A3). Building CoRe implies continued interaction between the military, public and private sectors, which can only be achieved through collaborative work and relationships of trust (ACT, 2019, p.A3).

The literature review suggests that, at the current stage of development, the goal is to implement the CoRe concept at NATO level, as an organization, because the guidelines for implementation in individual Allied States have not yet been adapted. Figures 1 and 2 and Table 4 contain the concepts that characterise CoRe. Figure 1 shows the key ideas and goals.

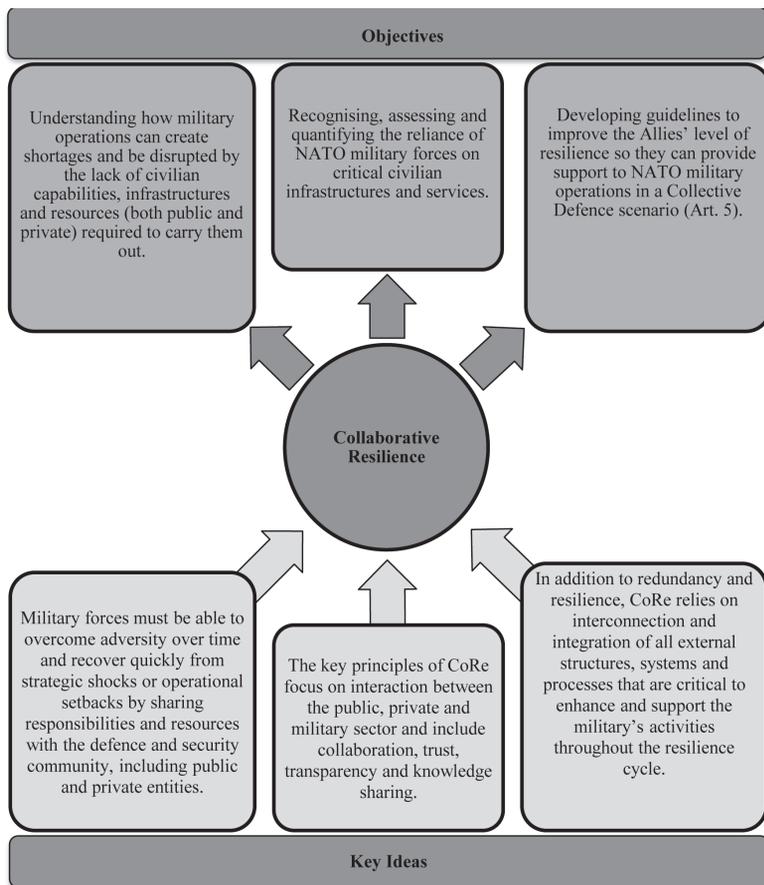


Figure 1 – Key ideas and goals of CoRe
Source: Adapted from ACT (2019, pp.A3-A7).

Table 4 contains the lines of effort (LE) that produce the right conditions to create CoRe. These conditions have been drawn from the provisions of the Commitment to Enhance Resilience (ACT, 2019, pp.A8-A9).

Table 4 – CoRe LE

Lines of Effort	
LE1. Buy-In	Promoting Allied cohesion in regards to the CoRe concept.
LE2. Gaps	Identifying needs and gaps through scenario simulation and modelling, in line with NATO's Level of Ambition.
LE3. Goals	Establishing quantitative requirements and guidelines to help Nations prioritise efforts and investments that directly support military operations in a Collective Defence scenario.
LE4. Network	Setting up enduring networks between the military, public and private sectors and other entities and organizations, e.g. the European Union, universities, among other stakeholders.
LE5. Tools	Improving Research & Development and promoting dual use and interoperability of military, public and private sector capabilities.

Source: Adapted from ACT (2019, pp.A8-A9).

Figure 2 shows the measures that the Alliance must take when implementing CoRe, i.e. actions that account for current threats and thus enable NATO to execute operations successfully and sustainably in the face of unexpected or strategic shocks through preparedness, absorption, recovery and adaptation (ACT, 2019, p.A8). While NATO does not provide a graphical representation of the resilience cycle, it is mentioned in key documents ACT (2018, p.E-1) and ACT (2019, p.A8).

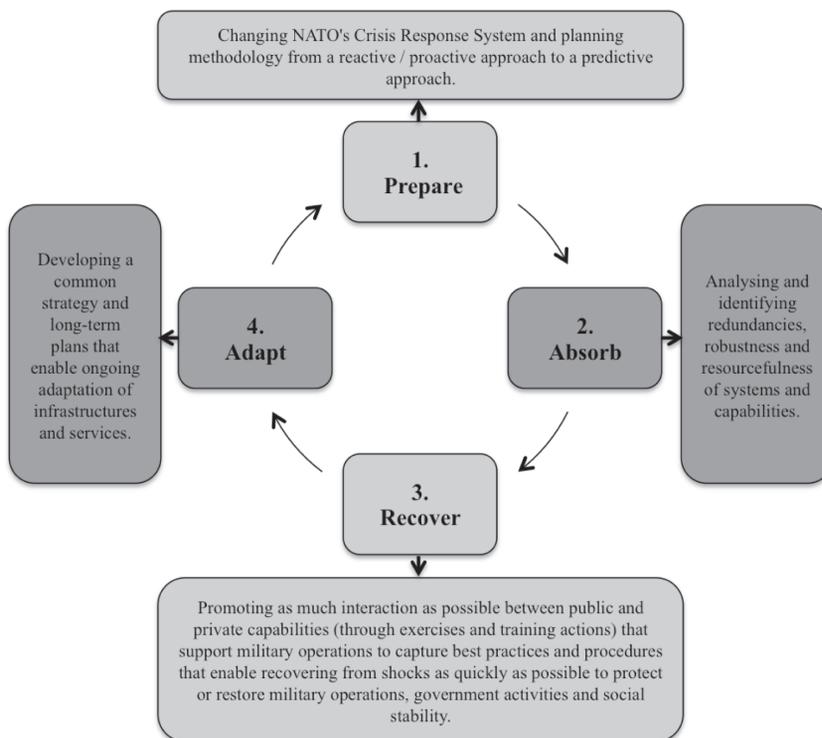


Figure 2 – Measures to be taken by NATO

Source: Adapted from ACT (2018, p.E-1) and ACT (2019, p.A8)

4.1.2. Implementing Collaborative Resilience

The ACT proposes that CoRe be implemented by creating a Military Capability. The current outline of the concept identifies a set of guidelines applicable to each component of this military capability⁶. As these guidelines are implemented and more specific requirements for each component are identified, it is vital that the lessons learned and best practices are captured and shared with all stakeholders (ACT, 2019, pp.A9-A11). Table 5 summarises these guidelines.

Table 5 – DOTMLPII components of CoRe

Collaborative Resilience	
Doctrine	CoRe elements should influence and be included in NATO documentation.
Organization	Promoting information sharing between the public, private and military sectors.
	Considering cooperation with other international organizations, including the United Nations and the European Union.
	Creating a pool of experts, who are qualified to plan and implement resilience in a way that facilitates information sharing, clears up misunderstandings and facilitates sharing of best practices with all stakeholders.
Training	Developing a national training strategy, which should be reinforced by NATO.
Material resources	Developing CoRe tools and / or methodologies that can be used to support decision making, identify requirements, develop capabilities, develop the concept, and for operational planning (e.g. Geospatial Risk and Resilience Assessment Platform, Interdependency Assessment Toolkit) ⁷
Leadership	Instructing and training leaders to Resilience thinking and to recognise and develop interdependencies between the various sectors (public, private and military).
Personnel	Enhancing the expertise and proficiency of military personnel on how to use military capabilities in a dual-use system by promoting training with the civilian population and local authorities.
Infrastructures	Identifying a super critical infrastructure network ⁸ to support the deployment and sustainment of NATO military forces in the Supreme Allied Commander Europe (SACEUR) area of operations.
Interoperability	Explore and define interoperability requirements in cooperation with the public and private sectors.

Source: Adapted from ACT (2019, pp.A9-A11).

An analysis of the document issued by the ACT (2019) revealed policy and legislative measures that support the implementation of CoRe. These measures are summarised in Table 6.

Table 6 – Policy and legislative measures

Collaborative Resilience
Establishing measures that promote interconnection between the public, private and military sectors.
Establishing measures that enable the sharing of operational plans for logistical support with the private sector, under certain conditions, from the early stages of a crisis, in order to ensure rapid supply.
Identifying pre-established measures that can be taken in periods of crisis and war to prevent the civil and military sectors from competing for resources, among other potential problems.

Source: Adapted from ACT (2019).

⁶ Doctrine, Organization, Training, Material resources, Leadership, Personnel, Infrastructure and Interoperability (DOTMLPII).

⁷ NATO (2019d, p.1-9).

⁸ Unofficial NATO term for the infrastructures that provide support to allied operations in theatres of operations outside national or regional borders.

As mentioned above, the CoRe concept is still under development. The Policy Framework for Civil-Military Interaction in Support of Enablement and Resilience (ACT, 2020) is set to be approved in the second half of 2020. Among other aspects, this document will define the policy for effective interaction between the military and civilian authorities of the NATO structure in the context of resilience. Therefore, the CoRe concept is not expected to be completed before the document is approved (S. Estrela, email, 14 April 2020). Furthermore, to refine and complete the concept, the ACT will analyse the lessons learned from the impact of COVID-19 on NATO missions and forces (Estrela, op. cit.).

4.1.3. Brief overview and answer to SQ1

Based on this analysis, the answer to SQ1 – *What does a CoRe military capability consist of?* – is that the CoRe concept (which focuses on military operations in a Collective Defence scenario and will be implemented by NATO as an organization, rather than by each individual Nation) is based on the vision of an Alliance capable of successfully and sustainably executing operations by preparing, absorbing, recovering and adapting to unexpected or strategic shocks through resilient and streamlined structures, systems and processes, which are facilitated by ongoing collaboration between public, military and private agencies.

The implementation of the concept is proposed by building a military capability, based on five LE, and a set of guidelines for each DOTMLPPII component.

4.2. The role of the AAF in developing national resilience

4.2.1. Civil Preparedness

CivPre refers to the ability to sustain the functions vital to society, ensuring basic supply for the population and the state's capacity to act in a crisis situation (Civil-Military Cooperation [CIMIC] - Centre of Excellence, 2019)⁹. This capability focuses on the aspects of national planning during emergencies or disasters (both in peacetime and in periods of crisis) that support the Allies' efforts in three critical civilian roles: assuring continuity of government; assuring continuity of critical government services; and assuring civilian support to the conduct of military operations (NATO, 2020c).

These critical civilian roles correspond to the seven BR of national resilience, which focus on building resilience and serve as indicators to assess the status of each Ally's CivPre (NATO, 2020c). At the Warsaw Summit, Portugal and the other Allies expressed their willingness to meet these requirements (NATO, 2016b), which are briefly described in Table 7 (NATO, 2017).

⁹ This study does not cover the role of CIMIC.

Table 7 – The seven BR of national resilience

BR1	Ensuring continuity of government and critical government services, e.g. the ability to make decisions and to communicate and implement them.
BR2	Ensuring resilient energy supply systems, e.g. by preparing support and resupply plans and networks, both in national territory and abroad.
BR3	Ensuring the ability to deal effectively with uncontrolled movement of people – over 2% of the national population – and provide for their basic needs (e.g. health, food, shelter), while ensuring that the country is able to meet its NATO commitments.
BR4	Ensuring resilient food resources – food and water – and ensuring that they are protected against any vulnerabilities or threats, e.g. disruption of supplies, contamination, sabotage, among others.
BR5	Having the ability to deal with mass ¹⁰ casualties ¹¹ , ensuring that civilian health systems can cope with the situation and that sufficient medical supplies are stocked and secure.
BR6	Ensuring resilient communication systems that enable telecommunications and cyber networks to function even under crisis conditions, and ensuring that they have sufficient back-up capacity.
BR7	Ensuring resilient transport systems that enable NATO forces to move across Alliance territory rapidly and ensuring that civilian services can rely on transportation networks.

Source: Adapted from NATO (2017).

The NATO Civil Emergency Planning Committee (CEPC) Planning Groups are responsible for monitoring and developing the seven BR in coordination with the Allies (NATO, 2019e).

In Portugal, CivPre corresponds to CEP and the ANEPC is responsible for meeting the seven BR through its activities within the SNPCE, which, as mentioned above, is still awaiting approval.

COVID-19 has posed a challenge to the Alliance's collective resilience which military forces have played a crucial role in addressing (NATO, 2020d). The impact of the pandemic on NATO's resilience is one of the aspects that will be analysed during the ongoing review of the seven BR, which is scheduled for appraisal at the meeting of the Alliance's Defence Ministers in June this year (NATO, 2020d).

4.2.2. The role of the AAF in building national resilience

With regards to the role of the AAF in building national resilience, and especially in meeting the seven BR, the System of Forces (SF) has several capabilities that can be used (National Security Council, 2014). Pursuant to the Basic Law on Civil Protection approved by Law No. 27/2006 of 3 July¹², the AAF, as a civil protection agent, is tasked with providing support in situations of serious accidents or disasters.

The AAF cooperate in civil protection missions and tasks related to meeting the basic needs and improving the quality of life of the population through the Emergency Military Support (EMS) mechanism (Operational Directive [DIROPI], 2018). This mechanism includes capabilities from the three AAF branches: (i) command, control and communications (C3); (ii) military engineering; (iii) medical and mental health support; (iv) refuelling and services; (v) maintenance and transport; (vi) chemical biological and radiological defence (CBR);

¹⁰ NATO plans for scenarios of 1000 casualties, but this number can be adjusted to the national reality (NATO, 2018, p.1-3)

¹¹ The term "casualties" refers to people who require medical support (NATO, 2018, p.1-5).

¹² Law No. 27/2006 of 3 July, amended by Organic Law No. 1/2011 of 30 November and by Law No. 80/2015 of 3 August, which republishes the law.

(vii) search and rescue; (viii) firefighting support; (ix) air support; (x) and maritime support (DIROP, 2018, p.D-1).

The EMS capabilities included in the DIROP (2018) were analysed and compared to each BR defined by the Alliance (NATO, 2017). The analysis revealed that they can be used directly or indirectly to meet several BR, as shown in Table 8.

Table 8 – EMS capabilities that correspond to the seven BR

EMS capabilities	BR1	BR2	BR3	BR4	BR5	BR6	BR7
C3	X	X	X	X	X	X	X
Military engineering			X	X	X		X
Medical and health support			X	X	X		
Resupply and services	X	X	X	X	X	X	X
Maintenance and transportation		X	X	X	X		X
CBR defense	X			X	X		X
Search and rescue			X		X		
Support to firefighting operations							
Air support			X	X	X		X
Maritime support			X	X	X		X

Source: Adapted from DIROP (2018) and NATO (2017).

As the table shows, the EMS capabilities largely correspond to all the BR, with the exception of firefighting support (due to its specificity).

The support provided by the AAFF in the fight against the COVID-19 pandemic is a paradigmatic example of how they can help build national resilience. According to Cravinho (2020), the AAFF have shown remarkable adaptability and ability to balance their COVID-19 tasks and their traditional missions. This support included providing food, providing assistance to the National Health Service, transporting supplies both on the mainland and in the Madeira and Azores archipelagos, and decontaminating vehicles and infrastructures (Joint Command for Military Operations [CCOM], 2020), which correspond to BR4, BR5 and BR7, respectively.

4.2.3. Analysis of the questionnaire responses

In addition to the support provided through the EMS missions, this study identified other capabilities, resources (both human and material) and actions that contribute (or may contribute) to the national response to each BR.

Table 9 contains a summarised version of the questionnaire responses. Both the element that contributes the most and the one that contributes the least are provided. For purposes of space and simplification, “capabilities, resources and actions” are referred to as elements from this point on.

Table 9 – Analysis of the questionnaire reponses

Element	Contributes the most	Contributes the least	Obs.
BR1: Continuity of government	“Appointing liasing personnel” (M=3.86;SD=0.824)	“Training in coordination with the ANEPC” (M=3.43;SD=1.065)	All elements contribute (M>3)
BR2: Resilient energy supplies	“Technical personnel (energy sector; hazardous materials drivers, etc.)” (M=3.61;SD=0.754)	“Fuel transport (land / air / sea)” (M=3.14;SD=0.878)	
BR3: Ensuring the ability to deal with uncontrolled movement of people	“Providing areas / infrastructure for shelters” (M=3.70;SD=0.795)	“Providing transportation” (M=3.25;SD=0.892) and “Helping to protect transit routes and vehicles” (M=3.25;SD=1.059)	
BR4: Resilient food resources	“Equipment and technical personnel qualified to respond to chemical and biological threats” (M=3.91;SD=0.960)	“Helping to protect critical food resources and infrastructures” (M=3.18;SD=1.167)	
BR5: Ensuring the ability to deal with mass casualties	“Military Chemical and Pharmaceutical Laboratory” (M=3.93;SD=0.818)	“Medical support staff” (M=3.59;SD=0.757)	
BR6: Ensuring resilient communication systems	“AAFF Cyber Defence Centre (EMGFA)” (M=3.75;SD=0.839)	“Mobile voice communication systems” (M=3.27;SD=0.924)	
BR7: Ensuring resilient transport systems	“Autonomous means of command, control and coordination of transport movements” (M=3.86;SD=0.878)	“Establishing transit corridors for military forces” (M=3.27;SD=1.169)	

As the data in Table 9 show, all elements obtained mean values higher than three (“contributes”) and lower than four (“strongly contributes”), that is, all elements contribute to their respective BR.

4.2.4. Constraints to the AAFF support to national resilience

In order to enhance the AAFF’s support to national resilience, the following constraints must be overcome.

The AAFF have not been included in the resilience development initiatives of some national sectors, including the elaboration of a best practices manual titled *Boas Práticas de Resiliência de Infraestruturas Críticas - Setor Privado e Empresarial do Estado* [Best Practices in Critical Infrastructure Resilience – Private and State Corporate Sectors] (National Platform for Disaster Risk Reduction, 2017).

Furthermore, there is a need for coordination and strategic guidance by the ANEPC on how the Portuguese AAFF can provide this support. This is a critical gap which this study will address in the next subchapter, which contains the content analysis of the interviews.

Building national resilience will require a strategy that addresses the seven BR, which are almost always interdependent. Executing this strategy will require planning, training and coordination between all stakeholders involved in building national resilience. This cannot be done without the approval of the SNPCE, a system “common to all areas of State government, [which] aims to organize and prepare the State’s strategic sectors to deal with situations of crisis or war” (Council of Ministers, 2020). The AAFF have

a critical role in building national resilience and it is vital that they be involved in the development of the SNPCE.

At the time the interviews were conducted, one interviewee mentioned that the draft law under discussion did not include national committees for all BR. If this is not changed in the final draft of the law, it could hinder an effective response to all BR and have a negative impact on national resilience.

4.2.5. Brief overview and answer to SQ2

The answer to SQ2 – *How can the Portuguese AAFF help build national resilience vis-à-vis Portugal's commitment to NATO?* – is that they do so mainly through the EMS mechanism and through civil protection missions and tasks which employ the capabilities of the SF to meet the basic needs and improve the quality of life of the population. Moreover, there are other capabilities / resources / actions that can be used to respond to each BR, e.g. providing infrastructure (storage, lodgings, etc.) and equipment (electrical generators, water treatment, etc.).

Therefore, the AAFF's specific capabilities (e.g. CBR, C3), organization and ability to respond in crisis situations provide a strategic reserve of means and capabilities and play a key role in building national resilience. However, some constraints must be overcome to enhance this support: (i) the fact that the AAFF have not been included in some initiatives to develop resilience; (ii) the lack of coordination and strategic guidance by the ANEPC; (iii) the fact that the SNPCE has not been approved. The latter should be structured in a way that addresses the seven BR and the AAFF should be involved in building the system.

4.3. Implementation status of the NATO concept of resilience in the Portuguese AAFF

4.3.1. DOTMLPPII components

To analyse how resilience will be implemented for each component of a military capability (Ministry of National Defence, 2014, p.38), a content analysis of the four experts' answers to the semi-structured interview was performed.

An analysis of Table 10 reveals that only the "M" and "Infrastructure" categories / components have recording units that were not unanimously selected by interviewees. Furthermore, "Infrastructure" was the only category / component in which only 50% (n=8) of recording units were selected by all interviewees; "O", "M", "P" and "Interoperability" were the only categories / components where at least one recording unit was selected by only one interviewee (25%).

Table 10 – Implementation status of NATO resilience in the AAF

Categories	Recording Units	Interviewees			
		I1	I2	I3	I4
D	No specific doctrine exists.	x	x	x	x
	There is implicit resilience ¹³ in the AAF.	x	x		x
O	Does not include positions / roles directly related to resilience.	x	x	x	x
	“What we have are sectoral actions that help build resilience, such as developing and implementing contingency plans.”				x
T	The plan of exercises includes some aspects related to resilience in an implicit, unsystematic and unstructured way.	x	x	x	x
M	Lack of equipment / technology to support resilience implementation measures.	x	x		x
	There is “an information system [...] that can be used, among other things, to deal with uncontrolled movement of people”.			x	
L	Implementing the concept of resilience is important.	x	x	x	x
	Resilience is a “crucial factor to accomplish the mission” / an “essential factor for the success of a mission”.		x	x	
	Lack of a strategy to implement resilience.	x	x	x	x
P	Military personnel do not attend resilience training in Portugal or abroad.		x	x	x
	The AAF promote “courses and workshops”.	x			
	The personnel appointed to positions related to resilience do not have specific training in the area.	x	x	x	x
	There is a shortage of qualified personnel.	x	x	x	x
I	Implicitly resilient energy systems.	x	x		
	Resilient energy systems.			x	x
	Implicitly resilient food resources.	x	x		
	Partially ¹⁴ resilient food resources.			x	x
	Implicitly resilient communication systems.	x	x		
	Partially resilient communication systems.			x	x
	Implicitly resilient transport systems.	x	x		
	Partially resilient transport systems.			x	x
I	Not applicable.	x			
	Lack of coordinated efforts to implement resilience by the AAF and civilian agencies.		x	x	x
	“[...] the branch is not responsible for coordinating this implementation with the responsible entities; however, the opposite is true.”			x	
	There is some interoperability between the branches.	x	x	x	x

Legend: The categories selected by: 100% of interviewees are highlighted in green; 75% of interviewees are in blue; 50% of interviewees are in black; 25% of interviewees are in orange.

¹³The term “implicitly” was used where resilience was identified in the responses or the analysis, but no concrete examples were given.

¹⁴The term “partially” is used when a concrete example of the element that enhances resilience is provided.

4.3.2. Coordination between the ANEPC and the AAFF; importance, benefits, and challenges of CoRe

As Table 11 shows, all respondents agree that *the lack of strategic direction and coordination by the ANEPC hinders the AAFF's ability to effectively support the national response to the seven BR* and that *developing the CoRe concept is important*. On the other hand, only one interviewee agreed that *the NATO Resilience concept should be coordinated with the SNPCE*, that *the national legislation does not include a committee for each NATO Civil Preparedness requirement*, that *the AAFF should be involved in developing the concept*, which is an essential tool, and that *organizational culture and material resources* are challenges to the implementation of CoRe.

To contextualise the answer given by I3 to the “ANEPC” category, it should be noted that, at the time the interview was conducted (18 March 2020), the AAFF were in the process of analysing the draft decree-law that will approve the SNPCE.

Table 11 – Coordination between the ANEPC and the AAFF; importance, benefits, and challenges of CoRe

Categories	Recording units	Interviewees			
		I1	I2	I3	I4
ANEPC	The lack of strategic direction and coordination by the ANEPC hinders the AAFF's ability to effectively support the national response to the seven BR.	x	x	x	x
	“This NATO Resilience concept must be coordinated with the National Civil Emergency Planning System, which has not yet been approved”.				x
	“The national legislation does not include a committee for each NATO Civil Preparedness requirement. [...] The role of the Armed Forces will not be clarified when the specific legislation [the decree-law that approves the SNPCE] is approved”.			x	
Importance of CoRe	Developing the CoRe concept is important.	x	x	x	x
	It could increase the effectiveness and probability of success of military operations.			x	x
	The AAFF should be involved in the concept's development.		x		
Advantages	“[...] it would be an essential tool [...] to create and implement resilience”.		x		
	The concept will increase the probability of success and effectiveness of the AAFF missions and operations.			x	x
	Not applicable.	x			
Challenges	Human resources.	x			x
	Financial resources.	x		x	x
	Material resources.				x
	Doctrine.		x		x
	Organizational culture.				x

Legend: The categories selected by: 100% of interviewees are highlighted in green; 75% of interviewees are in blue; 50% of interviewees are in black; 25% of interviewees are in orange.

4.3.3. Brief overview and answer to SQ3

The answer to SQ3 – *What is the implementation status of the NATO resilience concept in the Portuguese AAFF?* – is that, despite the lack of doctrine and the lack of specific positions / roles related to resilience in the AAFF organization, the AAFF are implicitly resilient.

Furthermore, the AAFF higher ranks agree that its implementation is important even though there is no strategy to do so.

Moreover: military personnel are not provided resilience training and resilience is not listed as an goal in any training plans; infrastructure, food resources and communication and transport systems are partially resilient or have implicit resilience and energy systems are resilient or have implicit resilience; as for interoperability, the AAFF do not coordinate with civilian agencies, but there is some interoperability between branches; all interviewees agree that developing the CoRe concept is important, and that it can increase the effectiveness and likelihood of success of military operations, but that lack of doctrine and human and financial resources constraints are challenges that must be overcome; there is a critical lack of and need for strategic direction and coordination by the ANEPC.

4.4. Transposing Collaborative Resilience to the AAFF and answer to the RQ

4.4.1. Strengths, Weaknesses, Opportunities and Threats (SWOT analysis)

A SWOT analysis (Table 12) of the collected data was carried out to identify the requirements to transpose CoRe to the AAFF.

Table 12 – SWOT analysis

SWOT analysis		INTERNAL ENVIRONMENT	
		STRENGTHS (S) S1 – The AAFF play a crucial role in building national resilience. S2 – The AAFF have implicit resilience. S3 – The AAFF have specific capabilities and EMS capabilities that can be used to support the national response to the seven BR. S4 – The AAFF higher ranks agree that implementing resilience is important. S5 – The AAFF higher ranks agree that developing CoRe is important.	WEAKNESSES (W) W1 – Lack of a resilience capability - DOTMLPPII - in the AAFF. W2 – Lack of doctrine to implement resilience in the AAFF. W3 – Lack of human and financial resources to implement CoRe in the AAFF.
EXTERNAL ENVIRONMENT	OPORTUNITIES (O) O1 – As a NATO member, Portugal has committed to building national resilience. O2 – NATO CoRe concept. O3 – NATO is committed to building collective resilience.	LA that use Strengths to benefit these opportunities (SO) SO1 – Using the AAFF’s specific capabilities and EMS capabilities to support the response to the seven BR (S1/3-O1/3). SO2 – Transposing CoRe to the AAFF, promoting cohesion and interoperability between the Navy, Army and Air Force (S4/O2).	LA that use Opportunities to overcome Weaknesses (WO) WO1 – Participating in the process of developing NATO’s collective resilience (W1/O3). WO2 – Requesting ministry support for obtaining the resources required to implement CoRe (W3/O1). WO3 – Using the CoRe concept as a basis for developing doctrine on implementing resilience as a military capability (W2/O2).
	THREATS (T) T1 – The SNPCE has not been approved. T2 – The lack of strategic guidance and coordination by the ANEPC hinders the AAFF’s ability to support the response to the seven BR. T3 – The Portuguese AAFF have not been involved in some national resilience development initiatives. T4 – The CoRe concept is still under development.	LA that use Strengths to avoid Threats (ST) ST1 – Participating in national resilience development initiatives (S2/3-T3). ST2 – Being involved in developing the CoRe concept (S5/T4). ST3 – Asking the ANEPC to provide strategic guidance and coordinate the AAFF’s efforts to support the response to the seven BR (S1/3-T2).	LA that mitigate Weaknesses to avoid Threats (WT) WT1 – Being involved in developing the SNPCE (W1/T1). WT2 – Developing doctrine to implement resilience, which should include the mechanisms / elements of coordination with the SNPCE and the ANEPC (W2-T1/2).

The analysis identified three challenges (CH) which the AAFP must overcome to help Portugal develop national resilience and fulfill its commitment to NATO:

- [CH1] IMPLEMENTING the CoRe capability in the AAFP. The goal is to implement resilience in a systematic and organized way that meets joint interoperability requirements, enabling each branch to support and be supported by the others.
- [CH2] ENHANCING the AAFP efforts to support the response to the seven BR of national resilience. The aim is to use the AAFP's specific capabilities and EMS capabilities to build national resilience under the strategic guidance and coordination of ANEPC.
- [CH3] IMPROVING Portugal's reputation with NATO as an ally that proactively contributes to collective resilience. The aim is to enhance Portugal's participation and influence in the process of building collective resilience.

4.4.2. Lines of action

The lines of action (LA) that will help overcome the CH are identified in Table 13.

Table 13 – Challenges and corresponding LA

CHALLENGES	LINE OF ACTION
CH1: IMPLEMENTING the CoRe capability in the AAFP.	SO2. Transposing CoRe to the AAFP, promoting cohesion and interoperability between the Navy, Army and Air Force. WO1. Participating in the process of developing NATO's collective resilience. WO2. Requesting ministry support for obtaining the resources required to implement CoRe. WO3. Using the CoRe concept as a basis for developing doctrine on implementing resilience as a military capability. ST2. Being involved in developing the CoRe concept. WT1. Being involved in developing the SNPCE. WT2. Developing doctrine to implement resilience, which should include the mechanisms / elements of coordination with the SNPCE and the ANEPC.
CH2: ENHANCING the AAFP efforts to support the response to the seven BR of national resilience.	SO1. Using the AAFP's specific capabilities and EMS capabilities to support the response to the seven BR. ST1. Participating in national resilience development initiatives. ST3. Asking the ANEPC to provide strategic guidance and coordinate the efforts to support the response to the seven BR. WT1. Being involved in developing the SNPCE.
CH3: CONTRIBUTING to Portugal's image within NATO as a proactive ally in building collective resilience.	SO2. Transposing CoRe to the AAFP, promoting cohesion and interoperability between the Navy, Army and Air Force. WO1. Participating in the process of developing NATO's collective resilience. ST2. Being involved in developing the CoRe concept.

4.4.3. Transposing CoRe to the AAFP

The analysis so far suggests that, in order to transpose CoRe to the AAFP, it will be necessary to implement LE that create the conditions that allow this transposition to occur (Table 14). This will entail building a military CoRe capability, which will be operationalised through the DOTMLPII components listed in Table 15.

While the LE provided by NATO do not include any political and legislative measures, they were deemed essential to the national process and were included in this study as a sixth LE.

Table 14 – LE to transpose CoRe

Lines of Effort	
LE1. Buy-In	Promoting adherence and cohesion by ensuring that the AAFF branches and the ministry agree to build CoRe as a military capability, meet joint (Navy, Army and Air Force) interoperability requirements and obtain the required resources (SO2) (WO3) (WO2).
LE2. Gaps	Assessing the CoRe status of each branch by identifying needs and gaps through simulation and modelling of scenarios that protect the national sovereignty and independence, the territorial integrity of the State, and allow Portugal to meet its Alliance commitments.
LE3. Goals	Identifying critical capabilities and infrastructures, services and means in the public and private sector which directly support national military operations to protect the national sovereignty and independence and the State's territorial integrity.
LE4. Network	Participating in the process of developing NATO's collective resilience by participating in appropriate fora (WO1).
	Being involved in developing the CoRe concept, appointing military personnel with expertise in the area (ST2).
	Cooperating with the ANEPC in the development of the SNPCE (WT1).
LE5. Tools	Improving Research & Development on CoRe in the AAFF and promoting dual use and interoperability of military, public and private sector capabilities.
LE6. Legal Framework	Participating in the development of applicable legislation.
	Measures that promote interconnection between the public, private and military sectors.
	Measures that enable the sharing of operational plans to coordinate logistical support with the private sector, under certain conditions, from the early stages of a crisis, to ensure speedy resupply.
	Pre-agreed measures that can be taken in times of crisis and conflict to prevent the civilian and military sectors from competing for resources, among other potential problems.

Table 15 – CoRe as an AAFF capability

DOTMLPII Components- ReCo	
Doctrine	Using the CoRe concept as a basis for developing doctrine on implementing resilience as a military capability (WO3), in a way that meets joint interoperability requirements (SO2).
	Including mechanisms of coordination with the SNPCE and the ANEPC (WT2).
	Using the AAFF's specific capabilities and EMS capabilities to support the response to the seven BR (SO1).
Organization	Adapting the organization of the branches and the EMGFA to include roles / positions related to CoRe (SQ3) ¹⁵ .
	Considering cooperation with other national and international organizations.
	Creating a pool of experts qualified to plan and implement CoRe.
Training	Developing a strategy to provide CoRe training in the AAFF (SQ3) that involves both the public and private sectors.
Material resources	Developing CoRe tools and / or methodologies (SQ3) that can be used to support decision making, identify requirements, develop capabilities, develop the concept, and for operational planning (e.g. Geospatial Risk and Resilience Assessment Platform, Interdependency Assessment Toolkit) ¹⁶ .
Leadership	Instructing and training leaders to Resilience thinking and to recognise and develop interdependencies between the different sectors (public, private and military) (SQ3).
Personnel	Promoting CoRe training in Portugal and abroad (SQ3).
	Selecting military personnel for CoRe roles according to their training / qualification (SQ3).
Infrastructures	Developing CoRe for communications systems, transport systems, food resources and energy systems (SQ3).
	Identifying a super critical infrastructure network to support the deployment and sustainment of national and NATO military forces in national territory.
Interoperability	Transposing CoRe to the AAFF, promoting joint cohesion and interoperability (SO2).
	Establishing coordination mechanisms between the AAFF and civilian organizations (both public and private) that provide support to military operations (SQ3).

¹⁵ The abbreviation "SQ3" indicates that the element was inferred from the data collected in the responses that correspond to SQ3.

¹⁶ NATO (2019d, p.1-9).

This process includes all LA that will help overcome CH1 and CH3, as well as two LA that correspond to CH2. Therefore, CH1 and CH3 can be overcome by transposing CoRe as proposed and CH2 can be partially overcome.

4.4.4. Brief overview and answer to the RQ

The answer to the RQ – *How can the NATO concept of Collaborative Resilience be transposed to the Portuguese AAF by building a new military capability?* – is that, to fulfill Portugal's NATO commitment of developing national resilience, the AAF must address three challenges: implementing the CoRe capability; enhancing the AAF efforts to support the response to the seven BR of national resilience; and improving Portugal's reputation with NATO.

The process operationalises the six conditions (LE) identified in this study and the elements that will be used to build the CoRe capability: developing doctrine; adapting the organization of the branches and the EMGFA, as well as their tools, processes and critical internal infrastructure (e.g. energy systems, communications); developing a strategy to implement CoRe in the AAF that involves the public and private sectors, and promoting interoperability and training; instructing leaders and providing training related to this capability.

As this process does not depend solely on the willingness and ability of the AAF (because CoRe is a capability that must be built collaboratively by the AAF and the public and private sectors) the involvement of the ministry in the political, financial and legal aspects is crucial to its implementation.

5. Conclusions

This study was guided by the RQ – *How can the NATO concept of Collaborative Resilience be transposed to the Portuguese AAF by building a new military capability?*

The GO was achieved by answering the RQ. To do so, three SO were defined and operationalised through three SQ.

SO1, *To analyse the concept of Collaborative Resilience as a military capability*, was achieved by conducting a literature review of the NATO CoRe concept and answering the corresponding SQ. The analysis revealed that the CoRe concept (which focuses on military operations in a Collective Defence scenario and will be implemented by NATO as an organization, rather than by each individual Nation) is based on the vision of an Alliance capable of successfully and sustainably executing operations by preparing, absorbing, recovering and adapting to unexpected or strategic shocks through resilient and streamlined structures, systems and processes, which are facilitated by ongoing collaboration between public, military and private agencies.

The implementation of the concept is proposed by building a military capability, based on five LE, and a set of guidelines for each DOTMLPPII component.

SO2, *To analyse how the Portuguese AAF can help build national resilience vis-à-vis Portugal's commitment to NATO*, was achieved and the corresponding SQ was answered by conducting a literature review and delivering a questionnaire to 44 officers (39 senior officers and 5 general officers), 43.2% of whom held a Division Head position at the time of the study or prior to it. The analysed data revealed that the AAF help build national resilience by

participating in civil protection missions and tasks which employ the capabilities of the SE, to meet the basic needs and improve the quality of life of the population, and that they do so mainly through the EMS mechanism. Moreover, there are other capabilities / resources / actions that can be used to respond to each BR, e.g. providing infrastructure (storage, lodgings, etc.) and equipment (electrical generators, water treatment, etc.).

Therefore, the AAFF's specific capabilities (e.g. CBR, C3), organization and ability to respond in crisis situations provide a strategic reserve of means and capabilities and play a key role in building national resilience. However, some constraints must be overcome to enhance this support: (i) the fact that the AAFF have not been included in some initiatives to develop resilience; (ii) the lack of coordination and strategic guidance by the ANEPC; (iii) the fact that the SNPCE has not been approved. The latter should be structured in a way that addresses the seven BR and the AAFF should be involved in building the system.

SO3, *To analyse the implementation status of the NATO concept of resilience in the Portuguese AAFF*, was achieved by answering the respective SQ. To do so, semi-structured interviews were conducted with four senior officers with supervisory and coordination roles from the General Staffs of the three branches of the AAFF and the EMGFA. The data analysis revealed that:

- Despite the lack of doctrine and the lack of specific positions / roles related to resilience in the AAFF structure, the AAFF are implicitly resilient, and the AAFF higher ranks agree that its implementation is important despite the lack of a strategy to do so;
- Military personnel are not given resilience training, and resilience is not included as a goal in any training plans;
- Infrastructure, food resources, communication and transport systems are partly resilient or have implicit resilience and energy systems are resilient or have implicit resilience;
- With regards to interoperability, the AAFF do not coordinate their efforts to implement resilience with civilian agencies; however, there is some interoperability between the branches;
- All interviewees agreed that the CoRe concept is important and that its implementation in the AAFF could increase the effectiveness and probability of success of military operations, despite the challenges posed by lack of doctrine and human and financial resource constraints;
- There is a critical lack of and need for strategic direction and coordination by the ANEPC.

In light of the above, the GO – *To propose that the NATO concept of Collaborative Resilience be transposed to the Portuguese AAFF by building a new military capability* – was achieved and the RQ answered. The findings showed that, to fulfill Portugal's NATO commitment of developing national resilience, the AAFF must address three challenges: implementing the CoRe capability; enhancing the AAFF efforts to support the response to the seven BR of national resilience; and improving Portugal's reputation with NATO.

The transposition process operationalises the six conditions (LE) identified in this study and the elements that will be used to build the CoRe capability: developing doctrine; adapting the structure of the branches and the EMGFA, as well as all tools, processes and critical internal

infrastructures (e.g. energy systems, communications); developing a strategy to implement CoRe in the AAFF that involves the public and private sectors, and promoting interoperability and training; instructing leaders and providing training related to this capability.

As this process does not depend solely on the willingness and ability of the AAFF (because CoRe is a capability that must be built collaboratively by the AAFF and the public and private sectors) the involvement of the ministry in the political, financial and legal aspects is crucial to its implementation.

Thus, this study's *main contribution* to knowledge is that it provides a framework to transpose CoRe to the AAFF.

There was a *limitation* extraneous to the study, which must nevertheless be addressed. This limitation stems from the fact that the CoRe concept is still under development and has not yet been formally approved by the Allies. Therefore, its final version may differ from the version examined in this study, which can influence how the concept should be transposed to the Portuguese AAFF.

To continue developing the process to implement CoRe as a capability of the Portuguese AAFF, *future studies* should focus not only on the AAFF, but also on other stakeholders in the process.

One *recommendation* of this study is that the EMGFA and the Portuguese Military Representation and Portuguese Delegation to NATO (Brussels) monitor and participate in the process of developing collective resilience in NATO (e.g. reviewing the seven BR; Policy Framework for Civil-Military Interaction in Support of Enablement and Resilience) and CoRe. Another recommendation is that a joint working group be set up at the EMGFA to act as a focal point to develop CoRe in the Portuguese AAFF. The Strategic Concept for National Defence “defines the State’s defence priorities in accordance with the national interest and is an integral part of the national defence policy” (Council of Ministers Resolution No. 19/2013 of 05 April). Therefore, a final recommendation is to include the concepts of national resilience and Collaborative Resilience in a future review of this document.

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