

COORDINATION BY THE MILITARY FIRE DEPARTMENT OF PREVENTION AND FIREFIGHTING MEASURES TAKEN BY FOREST FIREFIGHTERS IN MINAS GERAIS REPLACING PREVINCÊNDIO TASK FORCE

COORDENAÇÃO PELO CORPO DE BOMBEIROS MILITAR DAS MEDIDAS DE PREVENÇÃO E COMBATE A INCÊNDIOS FLORESTAIS TOMADAS POR BRIGADISTAS EM MINAS GERAIS EM SUBSTITUIÇÃO DA FORÇA-TAREFA PREVINCÊNDIO

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Abstract

The wildfires in Minas Gerais, exacerbated by irreversible climate change, require a significant increase in the number of people involved in prevention and firefighting efforts, especially in the Cerrado biome. The growing frequency and intensity of these fires demand a more robust command structure, with greater involvement of firefighters, brigadiers, and other actors to protect ecosystems and communities. The creation of firebreaks, fuel management, and alert systems are essential measures, but effective coordination depends on the definition of responsibilities. This decision

Resumo

Os incêndios florestais em Minas Gerais, exacerbados pela mudança climática irreversível, exigem um aumento significativo no número de pessoas envolvidas nas ações de prevenção e combate, especialmente no Cerrado. As crescentes frequência e intensidade dos incêndios demandam uma estrutura de comando mais robusta, com maior envolvimento de brigadistas, bombeiros e outros atores, para proteger ecossistemas e comunidades. A criação de aceiros, o manejo de combustíveis e os sistemas de alerta são medidas essenciais, mas a coordenação eficiente depende da



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directly impacts political leadership, reflecting on the ability to make short-, medium-, and long-term decisions. The recent transfer of coordination of prevention and firefighting actions to the Minas Gerais Military Fire Department (CBMMG), instead of the Previncêndio Task Force (FTP), has political and operational implications, as it determines who holds the authority to implement strategies in the state. This study aims to analyze these responsibilities through the analysis of the hierarchy of sources in Brazilian Law, highlighting the legal and practical implications of this change in coordination.

Keywords: forest firefighters; Minas Gerais Military Fire Department; Previncêndio Task Force; wildfires.

definição de competências. Essa decisão impacta diretamente o protagonismo político, refletindo na capacidade de tomar decisões de curto, médio e longo prazos. A recente transferência da coordenação das ações de prevenção e combate ao Corpo de Bombeiros Militar de Minas Gerais (CBMMG), em vez da Força-Tarefa Previncêndio (FTP), tem implicações políticas e operacionais, uma vez que define quem detém a autoridade para implementar estratégias no estado. Este estudo busca analisar essas competências à luz da hierarquia das fontes do Direito brasileiro, destacando as implicações jurídicas e práticas dessa mudança de coordenação.

Palavras-chave: brigadistas florestais; Corpo de Bombeiros Militar de Minas Gerais; Força-Tarefa Previncêndio; incêndios florestais.

Introduction

Forest fires pose a historic and persistent challenge in Brazil, particularly in the state of Minas Gerais, home to critical biomes like the Cerrado and the Atlantic Forest. The complexity and vulnerability of these ecosystems have elevated the fight against forest fires to an environmental and social priority over the years. Historically, forest fires have inflicted severe damage on biodiversity, water resources, and local communities, necessitating a coordinated and efficient response from public authorities.

Currently, the challenge of forest fires in Brazil—and particularly in Minas Gerais—is compounded by the effects of climate change. Rising temperatures, shifting precipitation patterns, and an increasing frequency of extreme events intensify both the occurrence and severity of forest fires. These adverse climate phenomena underscore the urgency of implementing effective prevention and response measures, requiring full engagement from both public authorities and civil society.

The implementation of measures to prevent and combat forest fires in Brazil calls for the active participation of all sectors of society. This shared responsibility involves collaboration among all federative entities and civil society. The participation of public authorities, through public policies and coordinated actions, is crucial to addressing the complexity of the issue. Simultaneously, the collaboration

of civil society, including the efforts of forestry brigades, is vital for strengthening emergency responses and promoting environmental awareness.

While forest fires are a global concern, local specificities necessitate the adoption of regionally adapted measures. In Minas Gerais, for instance, unique climatic and ecological characteristics demand tailored strategies, emphasizing the importance of engaging local authorities and communities in planning and implementing preventive and firefighting actions.

In the public imagination, the task of preventing and combating forest fires in Brazil is often associated with the Military Fire Brigade (Corpo de Bombeiros Militar, CBM), renowned for its historical presence and operational capabilities. CBM operates as part of the National Public Security System and serves as an auxiliary force to the Brazilian Army. Similarly, forestry brigades are widely regarded as key representatives of civil society in the effort for combating forest fires in Brazil. The scale of the forest fire issue, particularly in the context of climate change, underscores the necessity of collaboration among all sectors of society.

Thus, it is essential to analyze the normative development of the forest fire prevention and combat system in Minas Gerais, focusing on the legal and political framework that defines the roles and responsibilities of military firefighters and forestry brigades. The analysis relies on the hierarchy of Brazilian legal sources, emphasizing the interaction between state-level legal norms and the 1988 Federal Constitution, which serves as the organizational framework for the system.

It also examines the ongoing political debate regarding the coordination of firefighting efforts, particularly the leadership role asserted by military firefighters in managing these actions. This debate is particularly significant given the increasing demand for well-trained brigade members due to the environmental impacts on Minas Gerais' biomes, especially the Cerrado. Given this is a recent and politically charged topic, the research primarily focuses on interpreting the relevant legal provisions in Minas Gerais while considering the broader parameters for defining responsibilities and competencies in combating forest fires within the state.

Military firefighters operate within a hierarchical statutory structure, which differs markedly from the organization of forestry brigades. This organizational distinction influences the methods and techniques used in firefighting, affecting operational effectiveness across different scenarios. The experience of military firefighters in managing fire and panic situations has shaped the common perception that addressing all types of fires is their exclusive domain.

However, there is a critical conceptual distinction between *fire and panic* contexts and *forest fires*, justifying a differentiated approach to the coordination

of prevention and combat measures. Urban and industrial fires typically require an immediate, centralized response to safeguard lives and property, while wildfires demand strategies focused on the ecological dynamics of fire in natural environments.

A wildfire fundamentally depends on three elements: fuel, heat, and oxygen. Oxygen, abundant in forested environments, sustains combustion during a fire. The energy released intensifies the burning of forest fuels, facilitating the fire's spread. However, as a fire approaches urban areas, the nature of the fuel changes—trees and shrubs are replaced by building materials and household items, significantly altering the fire's behavior.

The role of the Minas Gerais Military Fire Brigade (Corpo de Bombeiros Militar de Minas Gerais, CBMMG) in coordinating forest fire prevention and combat measures has been a topic of discussion and debate. The centrality of this force in managing forest fires has been questioned, given the technical and operational expertise required to address such events effectively. This article seeks to delve into this issue by analyzing the legal framework of Minas Gerais, within the broader Brazilian context, to identify the characteristics of the forest fire prevention and combat system in the state. It examines CBMMG's and forestry brigades' roles within this system.

To address these questions, the study will provide a detailed analysis of the legal and regulatory standards governing the activities of military firefighters and forestry brigades in Minas Gerais. The research aims to clarify their roles, responsibilities, and limitations, offering a critical perspective on the legality and effectiveness of the coordination of forest fire prevention and combat measures in the state.

The division of competencies in forest fire prevention and combat in Minas Gerais intersects environmental protection, public management, and legal issues concerning the use and conservation of natural resources. These efforts for combat and prevention are vital for conserving biomes, particularly in the context of climate change and deforestation, which threaten biodiversity and ecosystem services critical to sustainable development.

1 Measures to prevent and combat forest fires

Forest fires are uncontrolled fires that occur in areas of natural vegetation, such as forests, woodlands, savannas, and fields. They can be caused by natural factors, such as lightning¹, or by human activities, including agricultural burns,

¹ Brazil is the country with the highest number of electrical discharges on the planet. This phenomenon,

poorly extinguished campfires, improperly discarded cigarettes, and vandalism. Forest fires may spread rapidly in the presence of combustible materials—dry vegetation, leaves, branches—and under favorable environmental conditions—high temperatures, low humidity, strong winds (Johnson & Miyanishi, 2001).

These are unforeseeable, uncontrolled events that can lead to severe damage to fauna, flora, and, in some cases, inhabited areas. They can spread quickly depending on weather conditions and the type of vegetation present. They lead to significant biodiversity losses, *habitat* destruction, pollutant gas emissions, and economic impacts from the destruction of natural resources and infrastructure.

Wildfires differ from controlled burns in that controlled burns are small, intentionally ignited fires closely monitored by fire management specialists to achieve specific land management and conservation goals (Chandler *et al.*, 1983). These burns are planned in advance and conducted under controlled weather conditions to ensure they remain both safe and effective. The goal is to reduce accumulated combustible material, improve ecosystem health, control pests and diseases, and promote the regeneration of plant species. Thus, controlled burns can play a crucial role in preventing forest fires².

Forest fire prevention measures encompass actions and strategies designed to reduce the likelihood of fires in forested areas and mitigate their impacts when they occur. These measures may include technical, legal, and educational approaches and rely on collaboration among various sectors of society, including governments, local communities, non-governmental organizations, and the private sector (Ramalho *et al.*, 2024).

Some of the most relevant measures to prevent forest fires include creating firebreaks³, managing fuel availability⁴, installing alarm and monitoring systems⁵,

resulting from highly intense atmospheric electrical activity, occasionally reaches the ground and can ignite forest fires. These fires, however, are generally more limited in scope due to the frequent presence of precipitation associated with electrical discharges in the country. A key characteristic of these fires is that they can emerge hours or even days after the electrical discharge, as slow combustion initiated by lightning later intensifies under suitable weather conditions, ultimately resulting in a forest fire (Torres *et al.*, 2020).

2 In Australia, prescribed burning is an integral part of forest management strategies. These burns limit the amount of accumulated combustible material, lowering the risk of severe wildfires, and promoting ecosystem health (McCaw, 2013).

3 Strips of deforested land that act as barriers to prevent the spread of fire.

4 Removal of dry vegetation and flammable material through thinning, pruning, and controlled clearing.

5 Installation of observation towers, monitoring cameras, and the use of satellites and drones for rapid fire detection.

conducting controlled burns⁶, and building access infrastructures⁷. In addition to technical measures, legal and regulatory approaches play a significant role, focusing on fire regulation⁸, monitoring and enforcing laws⁹, and drafting contingency plans¹⁰.

In Brazil, an example of a preventive initiative is the Program for Preventing and Combating Forest Fires (Programa de Prevenção e Combate a Incêndios Florestais, Prevfogo), managed by the Brazilian Institute of Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis, Ibama). Prevfogo was established in 1985 in response to growing concern about the impacts of forest fires in Brazil, especially in sensitive areas such as the Amazon, the Cerrado and the Atlantic Forest. Since its inception, the program has made significant strides in organizational structure, work methodologies, and integration with broader environmental policies. The program encompasses monitoring, enforcement, awareness campaigns, and the training of firefighting brigades (Custódio, 2006).

Gilvan Sampaio de Oliveira, general coordinator of Earth Sciences at the National Institute for Space Research (Instituto Nacional de Pesquisas Espaciais, Inpe), highlights the importance of strategies for preventing and combating forest fires in Brazil, particularly in the context of El Niño¹¹, La Niña¹², and climate change, warning of an increased frequency of extreme weather events in the coming years (Ao Ponto..., 2023). In response, Paulo Artaxo, a professor at the Institute of Physics at Universidade de São Paulo (USP) and a member of the United Nations Intergovernmental Panel on Climate Change (IPCC), emphasizes the urgent need to reinforce forest fire brigades (O Assunto..., 2023).

Forest firefighting measures refer to strategies and actions designed to control

6 Planned use of fire to limit the availability of combustible material and prevent larger fires.

7 Construction and maintenance of access roads and trails to facilitate the deployment of firefighting brigades.

8 Implementation of restrictions and regulations on the use of fire for agricultural and other activities.

9 Rigorous monitoring and enforcement of environmental laws by authorities to prevent illegal activities that may lead to fires.

10 Development of action plans to ensure a swift and efficient response in the event of a fire.

11 A climatic phenomenon characterized by the anomalous warming of surface waters in the Pacific Ocean. This warming affects the global climate, causing significant variations in precipitation and temperature patterns.

12 A climatic phenomenon that occurs with the anomalous cooling of surface waters in the Pacific Ocean, contrasting with El Niño, which is defined by the warming of these waters. This cooling significantly impacts global climate patterns, leading to notable variations in precipitation and temperature.

and extinguish fires that threaten natural ecosystems, human communities, and economic resources. Such measures are crucial for protecting lives, minimizing environmental damage, and preserving natural heritage. Recently, there has been a decrease in the public budget allocated for preventing and controlling forest fires in Brazil (Souza-Lima; Salomoni; Oliveira, 2024). This situation has placed increased pressure on forest firefighting agents.

Indirect combat methods involve the controlled use of fire to create defensive barriers or reduce available combustible material, thereby preventing the progression of forest fires. Machines and equipment can also be employed to create mobile firebreaks, cutting vegetation around the fire's perimeter to contain its spread.

Direct combat methods include the use of manual and motorized equipment to directly fight the fire, applying water, retardant foam, or chemicals to the flames. In this context, aircraft such as helicopters and air tankers may also be deployed to drop water or retardant onto fire-affected areas.

The challenge of forest firefighting in the context of climate change lies in managing meteorological conditions, as strong winds and high temperatures can complicate operations. Additionally, difficulties in accessing remote or rugged terrain can limit the effectiveness of combat measures. To address these challenges, it is critical to develop well-designed contingency plans, ensure adequate resources, and provide continuous training to improve firefighting effectiveness.

Military firefighters and forestry brigades must master techniques for interpreting and analyzing meteorological factors, which play a key role in influencing the state of fuels and fire behavior. During the winter months, when drought prevails across much of Brazil's biomes, the impact of forest fires becomes increasingly severe, particularly in sensitive biomes such as the Cerrado and the Atlantic Forest (Torres *et al.*, 2020).

The primary goal of firefighting is to control fires at their early stages, minimizing their spread and reducing subsequent damage. This approach helps preserve natural ecosystems, wildlife *habitats*, water resources, and recreational areas, thereby reducing socioeconomic impacts.

To prevent or minimize the risk of accidents during forest firefighting operations, the establishment of self-protection measures and procedures must be prioritized. These measures outline actions that all individuals must follow to avoid hazardous situations. To reduce accidents, safety standards have been developed as a foundational part of the training for all personnel involved in fire suppression efforts, whether they are military firefighters or members of forestry brigades (Torres *et al.*, 2020).

2 Coordination for taking measures to prevent and combat forest fires

Coordination and *execution of measures* are fundamental concepts in various fields, such as project management, public policies, and emergency response. While both involve the implementation of actions, they differ in focus and responsibilities.

Coordination of measures refers to the process of organizing, integrating, and aligning diverse activities, actions, or interventions to ensure they operate harmoniously and efficiently. This process involves effective communication among stakeholders, defining responsibilities, synchronizing actions, and resolving conflicts. Coordination is essential to ensure all parties involved work toward common goals, avoiding duplication of efforts and ensuring efficient use of resources. Activities associated with coordination include planning meetings, setting schedules, monitoring overall progress, and making strategic adjustments.

Execution of measures pertains to the actual implementation of planned actions or interventions. This involves putting plans and policies into action, carrying out the specific tasks required to meet defined objectives, and tracking progress. Execution relies on the application of human, financial, and material resources, adhering to deadlines, and addressing challenges or obstacles that may arise during the process. Practical and operational tasks associated with execution include building infrastructure, delivering services, developing products, and implementing policies.

Both functions are critical to the success of any project or initiative, with coordination laying the groundwork for effective execution, while execution is necessary to turn plans into tangible outcomes. Together, they aim to achieve specific objectives through the implementation of planned actions. Coordination and execution are interdependent processes: effective coordination facilitates efficient execution, and successful execution depends on robust coordination. In general, both coordination and execution involve the participation of multiple stakeholders, such as teams, departments, or even different organizations.

However, coordination focuses on organizing and harmonizing actions and interventions, managing the interaction between various components of a project or initiative. Execution, on the other hand, centers on the concrete implementation of planned actions, involving the practical execution of defined tasks and activities. Coordination encompasses responsibilities such as strategic planning, assignment of roles, communication among stakeholders, and conflict resolution. Execution includes responsibilities such as performing specific tasks, meeting

deadlines, utilizing resources, and adapting to operational challenges.

In Brazil, CBMs play a vital role in preventing and combating forest fires, ensuring public safety, protecting the environment, and preserving valuable natural resources (Ibama, 2009). Through coordinated efforts, public education, investment in technology, and ongoing training, military firefighters are at the forefront of addressing the challenges posed by wildfires, fostering community resilience against these devastating natural events.

In the realm of prevention, military firefighters conduct educational campaigns to inform the public about safe fire practices, legal restrictions, and preventive measures. They carry out inspections in vulnerable areas, such as urban-forest interface zones, to identify and correct potential fire sources, as a forest fire close to an urban environment changes substantially, necessarily implying a change in combat strategy (Cipriano Júnior; Parizotto, 2017). Military firefighters maintain surveillance systems, such as observation towers and ground and aerial patrols, to detect fires in their early stages. They also use advanced technologies, including sensors and monitoring cameras, to oversee large areas and quickly identify fire outbreaks.

In the context of firefighting, military fire brigades deploy specialized teams and technical resources to combat forest fires as soon as they are detected, striving to control their spread. They establish command posts and operations centers to oversee all phases of fire response, from mobilizing resources to executing firefighting strategies.

Helicopters and air tankers are employed to drop water, flame retardants, and other extinguishing agents onto fire-affected areas. They also have teams specifically trained in forest fire management techniques, including creating firebreaks and operating heavy machinery.

Beyond the operational measures, obligations arising from the principle of good faith comprise the responsibility to interpret and communicate sustainable policies transparently. Such obligations are integrated with environmental principles and influence private relationships, embedding environmental responsibilities into various activities. This principle is evident in the hiring and support of forestry brigades, which is not contingent on specific legislation but instead functions as a metanorm (Macedo, 2023).

3 Coordination for fire and panic prevention and combat measures by the Minas Gerais Military Fire Department

According to Article 42 of the 1988 Federal Constitution (Constituição da República Federativa do Brasil de 1988, CF88), members of CBMs, institutions organized based on hierarchy and discipline, function as military personnel within their states, the Federal District, and other territories (Brasil, 1988). CBMs also serve as public security bodies¹³ responsible for conducting civil defense¹⁴ activities and acting as an auxiliary force to the Brazilian Army, operating under the authority of the governors of the states, the Federal District, and other territories¹⁵.

In Minas Gerais, Article 39 of the state Constitution reaffirms that CBMMG has a military character and is governed by its own statute, established through complementary law (Minas Gerais, 2024). This indicates that the institution's structure and operations adhere to principles and standards like those of the armed forces. Hierarchy within CBMMG establishes a clear and well-defined chain of command, where each military firefighter is accountable to a superior officer and receives orders accordingly. Discipline entails strict compliance with the rules, regulations, and directives set forth by the institution.

CBMMG's duties are detailed in Article 142, II, of the Constitution of Minas Gerais, which, in alignment with Article 144, §5 of the CF88, assigns CBMMG responsibility for "[...] the coordination and execution of civil defense actions, fire prevention and suppression, fire inspections, search and rescue operations, and the establishment of standards related to the safety of people and their property against fire or any type of catastrophe" (Minas Gerais, 2024, free translation¹⁶).

It must also be noted that the federal and state constitutional provisions mandating that CBMMG's coordination and execution of civil defense measures should not be conflated with measures specifically aimed at preventing and combating forest fires. Regarding the concept of *civil defense*, Silva and Gonçalves (2019, p. 194, free translation¹⁷) define it as "the preventive and combative duty

13 Article 144, V, of the CF88 (Brasil, 1988).

14 Article 144, §5, of the CF88 (Brasil, 1988).

15 Article 144, §6, of the CF88 (Brasil, 1988).

16 From the original: "[...] a coordenação e a execução de ações de defesa civil, a prevenção e combate a incêndio, perícias de incêndio, busca e salvamento e estabelecimento de normas relativas à segurança das pessoas e de seus bens contra incêndio ou qualquer tipo de catástrofe".

17 From the original: "do dever preventivo e combativo para preservação da ordem pública e bem-estar social – sobretudo nas perspectivas urbanísticas, em que a organização urbana por edificações

to preserve public order and social well-being—especially in city contexts, where urban organization through buildings requires technical measures to avoid accidents”.

A priori, civil defense must be understood as the public activity of planning and coordinating actions to protect the civilian population (Castro, 2007). Although initially created to safeguard civilians in the context of armed conflict (Séguin; Bentes; Santos, 2016), the term “civil defense” has evolved in Brazil, being now understood as measures aimed at preventing and reducing risks, as well as minimizing the socioeconomic and environmental impacts of disasters, which are, in turn, defined as “the result of an adverse event, of natural origin or induced by human action, on ecosystems and vulnerable populations, causing significant human, material, environmental, and economic and social losses”, according to Article 1, V, of Law No. 12,608/2012 (Brasil, 2012, free translation¹⁸). Consequently, measures to prevent and combat forest fires are encompassed within the modern framework of civil defense, in which CBMs play a prominent role.

State Complementary Law No. 54/1999, which governs the organization and functioning of CBMMG, outlines the structure, competencies, duties, and disciplinary regime of the institution. It also regulates aspects related to the careers of military firefighters in Minas Gerais (Minas Gerais, 1999). Article 3, I, of this law assigns CBMMG the responsibility of coordinating and executing fire prevention and combat actions without specifying the type of fire, which could, *prima facie*, imply that it applies to all fire types (Minas Gerais, 1999). Specifically, the provision states that CBMMG is tasked with coordinating and executing civil defense, public protection and relief, fire prevention and suppression, fire and explosion investigations at accident sites, as well as search and rescue operations.

Regarding fire prevention and combat by CBMMG, the highlight in Minas Gerais is State Law No. 14.130/2001, whose Article 1 establishes that “The prevention and combat of fire and panic in buildings or spaces intended for collective use in the state shall comply with the provisions of this law” (Minas Gerais, 2001, free translation¹⁹), being the responsibility of the CBMMG, under the authority granted by Article 3, I, of Complementary Law No. 54/1999, to coordinate and enforce actions for the prevention and combat of “fire and panic” (Minas Gerais, 1999).

demanda uma tratativa técnica para evitar sinistros”.

18 From the original: “resultado de evento adverso, de origem natural ou induzido pela ação humana, sobre ecossistemas e populações vulneráveis que causa significativos danos humanos, materiais ou ambientais e prejuízos econômicos e sociais”.

19 From the original: “A prevenção e o combate a incêndio e pânico em edificação ou espaço destinado a uso coletivo no Estado serão feitos com a observância do disposto nesta lei”.

Expression ‘fire and panic’ is particularly significant for understanding the issue. According to Article 1, Sole Paragraph, of Law No. 14.130/2001, it refers to fires occurring in buildings or spaces intended for collective use in Minas Gerais, which include “commercial, industrial, or service buildings, as well as residential apartment buildings” (Minas Gerais, 2001, free translation²⁰).

It is evident that, under the current mining laws, the concepts of fire and panic are not associated with forest environments, as they pertain specifically to the protection of the population—a core element of civil defense²¹. Consequently, “the Minas Gerais Military Fire Department (Corpo de Bombeiros Militar de Minas Gerais, CBMMG) must act—not only by effectively extinguishing the flames [...] but also by ensuring urban conditions that guarantee fire safety” (Silva; Gonçalves, 2019, p. 197, free translation²²).

Under the Constitution of Minas Gerais, Complementary Law No. 54/1999, and Law No. 14.130/2001, CBMMG is tasked with coordinating fire prevention and suppression measures in urban areas, such as commercial or residential buildings (Minas Gerais, 1999, 2021, 2024)²³. As such, there is no clear indication that CBMMG is the competent authority for coordinating and executing measures to prevent and combat forest fires²⁴, despite the provisions of the Law on the National Civil Protection and Defense Policy (Lei sobre a Política Nacional de Proteção e Defesa Civil, PNPDEC) (Brasil, 2012). While CBMMG plays a significant role in adopting these measures, it does not have exclusive responsibility for coordinating or directing them.

20 From the original: “os edifícios ou espaços comerciais, industriais ou de prestação de serviços e os prédios de apartamentos residenciais”.

21 For a doctrinal discussion on the distinction between forest and urban fires, *vide* Bakalarczyk and Gonçalves (2020).

22 From the original: “o Corpo de Bombeiros Militar de Minas Gerais (CBMMG) deverá atuar – para além do combate efetivo às chamas [...] na garantia das condições urbanísticas que atestem a segurança contra incêndios”.

23 According to Opinion No. 15.719/2016 of the General Attorney’s Office of the State of Minas Gerais, CBMMG is only authorized to close *establishments* in cases of imminent risk of *fire and panic* (Silva; Gonçalves, 2019).

24 Under Article 2, I, of Law No. 14.944/2024, a forest fire is defined as “any uncontrolled and unplanned fire that affects forests and other forms of vegetation, native or planted, in rural areas and that, regardless of the source of ignition, requires a response” (Brasil, 2024). From the original: “qualquer fogo não controlado e não planejado que incida sobre florestas e demais formas de vegetação, nativa ou plantada, em áreas rurais e que, independentemente da fonte de ignição, exija resposta”.

4 Coordination for forest fire prevention and combat measures by the Previncêndio Task Force in Minas Gerais

Within the state regulatory framework, State Law No. 20.922/2013, known as CFM, came into force. It provides, in its Article 96: “The prevention and combat of forest fires shall be conducted through permanent and integrated action by public authorities and the private sector, under the general coordination of the competent state environmental agency” (Minas Gerais, 2013, free translation²⁵).

The CFM provision confirms that CBMMG—not being an environmental agency—does not have the authority to coordinate or execute forest fire prevention and combat measures (Minas Gerais, 2013). Instead, CBMMG’s jurisdiction pertains to the coordination and execution of fire and panic measures, which are confined to urban spaces²⁶.

In 1997, Minas Gerais established the Forest Fire Prevention and Combat Program, commonly known as Previncêndio Task Force (Força Tarefa Previncêndio, FTP)²⁷, which, under the terms of Article 3 of State Decree No. 44,043/2005, later replaced by Article 2, II, of State Decree No. 45.960/2012, the FTP is tasked with implementing immediate actions to prevent and combat forest fires in state conservation units, areas of ecological significance, and forested regions that pose risks to life and public or private property (Minas Gerais, 2005).

Under Article 4, III, of Decree No. 45.960/2012, CBMMG is a member of the FTP, along with the State Forestry Institute (Instituto Estadual de Florestas, IEF), the Minas Gerais Military Police (Polícia Militar de Minas Gerais, PMMG), the Civil Police of the State of Minas Gerais (Polícia Civil do Estado de Minas Gerais, PCMG), and the State Civil Defense Coordination (Coordenadoria Estadual de Defesa Civil, CEDEC/MG). However, CBMMG does not take any role in the coordination²⁸ of the FTP (Minas Gerais, 2012).

Composed of five public entities, the FTP, responsible for coordinating forest fire prevention and combat measures in Minas Gerais, is also required, under

25 From the original: “A prevenção e o combate aos incêndios florestais serão realizados mediante ação permanente e integrada do poder público e da iniciativa privada, sob a coordenação geral do órgão estadual ambiental competente”.

26 For a detailed discussion on the urban nature of fire and panic, see Barreto (2019).

27 FTP is headquartered in Curvelo, strategically located in the geographic center of the state, enabling its teams to respond to incidents with speed and efficiency. Minas Gerais is recognized as a pioneer in initiatives of this nature, with FTP being one of the largest programs of its kind in Latin America (Pereira; Pereira; Ferreira, 2007).

28 Article 5 of Decree No. 45.960/2012 assigns the FTP’s General Coordination the responsibility for defining strategic actions (Minas Gerais, 2012).

Article 96 of the CFM, to act in collaboration with public authorities and the private sector (Minas Gerais, 2013). In the absence of general coordination, CBMMG, integrated into the FTP, is responsible for collaborating with the private sector and other public entities.

Regarding the integrated actions of the FTP, which include the CBMMG and private, community, and volunteer initiatives, the *expertise* of forestry brigades stands out. Although not officially part of the FTP, these members actively collaborate in its efforts. Engaged in continuous efforts to prevent and combat forest fires, including through Integrated Fire Management (Manejo Integrado do Fogo, MIF), forestry brigades voluntarily provide a service of significant public interest, as outlined in Article 101 of the CFM: “The services provided to combat forest fires are considered to be of significant public interest” (Minas Gerais, 2013, free translation²⁹).

The FTP intensifies its operations during the critical forest fire season in Minas Gerais, from June 15 to November 15. Drawing on accumulated experience, there is an increasing focus on collecting technical data to better understand fire spread and characterize burned areas. Each year, critical decisions are made based on forest flammability and the distribution of fire outbreaks. These include establishing controlled burning schedules, imposing burning restrictions, directing combat operations, and notifying property owners near conservation units (Pereira, Pereira, Ferreira, 2007).

5 Integration of forestry brigades into measures coordinated by the Previncêndio Task Force in Minas Gerais

The training of forestry brigades plays a crucial role in forest fire prevention. Not only do these training programs equip community members to respond effectively to wildfires but also foster a culture of fire prevention and sustainable fire management (Ribeiro, 2002).

Forestry brigades are often respected figures within their communities. When trained, they become advocates for raising awareness about wildfire risks and promoting safe fire management practices. Additionally, they can educate other community members on the importance of fire prevention, including proper methods for agricultural burning and how to avoid risky behaviors such as improper cigarette disposal and unsafe campfire practices.

29 From the original: “Os serviços prestados no combate a incêndios florestais são considerados de relevante interesse público”.

Forestry brigades can serve as on-the-ground observers, conducting regular patrols to identify risk conditions and detect fire outbreaks. This ongoing monitoring enables early fire detection, allowing for swift and efficient responses. They also contribute to collecting data on fire incidents and environmental conditions, providing valuable insights for planning and implementing fire prevention and firefighting strategies.

Forestry brigades are trained to create and maintain firebreaks—cleared strips of land that act as barriers to prevent the spread of fire. They can also maintain access trails to facilitate the movement of firefighting crews. With proper training, brigade members can carry out controlled burns, which help reduce accumulated fuel material and lower the risk of uncontrolled wildfires.

The training of forestry brigades enhances the communities' ability to protect themselves from forest fires, reducing exclusive reliance on external emergency services. Active involvement in wildfire prevention fosters a sense of shared responsibility and collaboration among community members, strengthening social cohesion.

Community brigade training programs have been successfully implemented in many parts of the world. In Brazil, Prevfogo trains and equips forestry brigades in several regions, particularly in critical areas like the Cerrado and the Amazon (Ibama, 2024). In the United States, the *Firewise USA*³⁰ program encourages communities to organize and reduce wildfire risks through training and preventative measures (Rego *et al.*, 2020, p. 55).

Forestry brigades play a critical role in combating forest fires, serving as the initial line of defense in many rural and peri-urban areas. Their responsibilities include several essential tasks required to quickly and effectively control and extinguish forest fires (Silva *et al.*, 2003, p. 96).

Forestry brigades are trained to continuously monitor their designated areas, identifying early signs of forest fires, such as smoke or flames (Soares & Batista, 2007). When a fire is detected, firefighters promptly initiate a response, communicating the emergency, mobilizing resources, and moving to the fire's location. They utilize hand tools, such as dampers, blowers, hoes, and hoses, to combat the flames directly and prevent the fire from spreading (Araújo & Gonçalves, 2016). They also implement fire management techniques, such as creating firebreaks, to

30 *Firewise USA* is a U.S. national program that encourages communities to take proactive steps to mitigate the risk of wildfires and increase resilience to such events. The program is a collaboration between the National Fire Protection Association (NFPA) and various state and local fire management agencies. It provides resources, education, and support to help communities become more resilient to wildfires.

control fire spread and safeguard vulnerable areas.

The local presence of forestry brigades enables immediate intervention, reducing response times and minimizing the extent of damage caused by the fire (Ribeiro, Soares, & Beppler, 2012). The use of community firefighters offers a cost-effective alternative to traditional firefighting, leveraging local human resources with intimate knowledge of the terrain. This fosters community engagement, strengthens local resilience, and empowers residents to safeguard their natural resources (Queiroz *et al.*, 2021).

Community firefighters work as a team, under the guidance of designated leaders, to ensure an organized and efficient response (Queiroz *et al.*, 2021). Collaboration with fire teams, government agencies, and other brigades enhances mutual support and resource allocation (Ribeiro, Soares, & Beppler, 2012). The greatest challenge lies in establishing efficient integration with professional emergency and response services, which is vital for a unified and effective response.

6 Collaboration between forestry brigades and military firefighters in forest fire prevention and combat in Minas Gerais

Interaction and coordination between forestry brigades and military firefighters are crucial for effectively and safely combating forest fires. Each group plays complementary roles, contributing specific skills and resources that integrate to maximize operational efficiency. In some areas, such as Mato Grosso, mixed brigades composed of both military firefighters and forestry brigades have been established (Barroso, 2016).

Forestry brigades are often the first to detect fires, especially in rural and hard-to-access areas, and they initiate the response immediately upon detection. Military firefighters are alerted by brigades or monitoring systems. They mobilize teams and resources to the fire site, preparing for a more structured intervention.

In combat, firefighters use manual techniques to fight the flames, such as dampers, blowers, hoes and firebreak construction techniques. Firefighters, on the other hand, employ more advanced techniques, including the use of drones, heavy equipment, helicopters, and aircraft to deploy water, retardants, and other extinguishing agents (Cunha & Sturm, 2019).

Early detection by brigades, followed by a quick response by firefighters, minimizes reaction time, limiting the spread of the fire. Each group can leverage its specific skills and resources to complement the other's needs, optimizing the use of equipment and personnel. Effective coordination minimizes risks for

firefighters by ensuring that all participants operate under strict safety protocols.

The primary challenge lies in coordinating operations. Clear and continuous communication between brigades and military firefighters is essential to ensure that crucial information is shared promptly, and decisions are made based on up-to-date data. It is critical that both groups align their operational protocols, firefighting techniques, and safety procedures to prevent conflicts and maximize efficiency.

In Minas Gerais, the coordination of forest fire prevention and combat operations involves both forestry brigades and military firefighters under the FTP's scope, which serves as the competent environmental agency, in accordance with the CFM (Minas Gerais, 2013). Military firefighters and forestry brigades perform distinct but complementary roles, which sometimes lead to significant interactions and separations. This dynamic is crucial to understanding how various groups collaborate to address the challenges posed by wildfires in the state.

At times, differences in operational protocols and approaches may result in coordination challenges. For instance, community firefighters may have experience in dealing with fires using localized and horizontal methods, whereas military firefighters operate under formal and hierarchical procedures.

In situations where leadership or decision-making responsibilities are unclear, conflicts of competence and authority may arise between community and military firefighters. This can adversely affect the efficiency and effectiveness of the wildfire response.

The analysis of this issue will be conducted in light of Minas Gerais' legal framework, assuming alignment with the constitutional limits established nationally. This requires considering not only the specific laws and regulations of Minas Gerais but also their alignment with the fundamental principles and guidelines established by the CF88, ensuring the legality of analyses and decisions within the national legal framework.

7 Coordination by the Minas Gerais Military Fire Department of measures to prevent and combat forest fires within the state

With the introduction of State Law No. 22.893/2018 and State Decree No. 47.998/2020, the issue of the hierarchical application³¹ of laws resurfaces.

³¹ The hierarchy of norms is a legal principle that establishes a ranking of authority among different types of legal norms within a system. This hierarchy determines which norms hold the greatest authority and must be adhered to in cases of conflict between them. The hierarchy of norms may vary depending on the country and its specific legal system, but it generally follows a structure where

As established, there is no incompatibility or normative conflict between the Constitution of Minas Gerais, Complementary Law No. 54/1999, Law No. 14,130/2001, the CFM, and Decree No. 45.960/2012. CBMMG participates in the FTP, which holds the authority to coordinate forest fire prevention and combat measures in Minas Gerais, fostering horizontal collaboration between military firefighters and forestry brigades.

Even if it is argued that Complementary Law No. 54/1999—which governs the basic organization of CBMMG—should hold a higher position than the CFM, which is an ordinary state law, it must be recognized that, under Article 59, III, of the CF88 (Brasil, 1988)³², both ordinary laws and complementary laws derive their validity from the Constitution itself. Thus, there is no hierarchical distinction between complementary laws and ordinary laws (Temer, 2008)

As there is no hierarchy between complementary law and ordinary law, the provisions of the CFM are not invalidated by those of Complementary Law No. 54/1999. On the contrary, as the CFM is an infraconstitutional norm enacted after the organization of CBMMG and specifically addresses forestry and biodiversity protection policies in Minas Gerais, it can be argued that, in the event of a normative conflict, the provisions of the latter should take precedence over those of the former. This reinforces the argument that the FTP is responsible for coordinating measures to prevent and combat forest fires in the state, aligning with the interpretation of Article 142, II, of the Constitution of Minas Gerais, which does not assign this responsibility to CBMMG either (Minas Gerais, 2024).

The enactment of Law No. 22.893/2018 has reignited the debate over CBMMG's authority to coordinate and execute measures to prevent and combat forest fires in Minas Gerais. According to Articles 1 and 2, I, of the law, CBMMG is tasked with coordinating and supervising volunteers, professionals, and civil institutions in preventing and combating fire and panic (Minas Gerais, 2018).

Law No. 22.893/2018 can be brought into the discussion regarding legislative changes in the regulation of private sector participation, particularly forestry brigades, in the prevention and combat of forest fires in Minas Gerais. As this law was enacted after the CFM, it could be inferred that its Article 96 has been revoked, transferring general coordination responsibilities from the FTP to CBMMG.

the Constitution occupies the highest position. All other laws and regulations must align with the Constitution. This hierarchical structure ensures the coherence and integrity of the legal system by preventing lower-level norms from contradicting higher-level ones. It also establishes a clear order of precedence and application for legal standards.

32 Clearly, the CF88 applies in Minas Gerais with a higher normative status than the state's legal system.

Such an interpretation, however, should not prevail. Law No. 22.893/2018 explicitly assigns CBMMG the responsibility for the prevention and combat of “fire and panic” (Minas Gerais, 2018), which, as previously analyzed in Article 1, Sole Paragraph, of Law No. 14.130/2001, pertains to urban fires and is in no way related to forest fires (Minas Gerais, 2001). Thus, it is precisely the Minas Gerais law addressing “fire and panic” that prevents CBMMG from assuming the coordination responsibilities assigned to the FTP.

As an extension of this issue, it is unsurprising that Decree No. 47.998/2020, which regulates Law No. 14.130/2001, introduces a new element in its Annex: the Classification Table of Buildings and Spaces for Collective Use by Occupancy. In its section M-6, it is indicated that “wilderness” is perceived as a space intended for collective use in Minas Gerais, defined by the regulation as “forests, ecological reserves, forest parks, and similar areas” (Minas Gerais, 2001, free translation³³).

Under Decree No. 47.998/2020, forest environments would be categorized as spaces for collective use (Minas Gerais, 2020), thereby falling within the scope of Article 1, *caput*, of Law No. 14.130/2001. For these purposes, the CBMMG, exercising the authority granted by Article 3, I, of Complementary Law No. 54/1999, performs the following actions:

- I – the analysis and approval of systems for fire and panic prevention and combat.
- II – the planning, coordination, and execution of inspection activities related to fire and panic prevention at locations covered by this law.
- III – the establishment of technical standards for the safety of individuals and their property against fire or any type of disaster.
- IV – the imposition of administrative sanctions in cases provided for by law (Minas Gerais, 2001, free translation³⁴).

Thus, one could argue that, starting in 2020, if forests are considered spaces for collective use, it would fall to CBMMG to assume general coordination of forest fire prevention and combat measures in Minas Gerais. This is, however, an impossible interpretation, as, unlike the relationship between ordinary and complementary laws, there is indeed a normative hierarchy between an ordinary law and a decree, given the “supremacy of legislative authority” (Carnelutti, 1999, p. 173). A decree cannot change the provisions of a law, as it must “[...] serve the

33 From the original: “florestas, reservas ecológicas, parques florestais e assemelhados”.

34 From the original: “I – análise e aprovação do sistema de prevenção e combate a incêndio e pânico;

II – planejamento, coordenação e execução das atividades de vistoria de prevenção a incêndio e pânico nos locais de que trata esta lei;

III – estabelecimento de normas técnicas relativas à segurança das pessoas e seus bens contra incêndio ou qualquer tipo de catástrofe;

IV – aplicação de sanções administrativas nos casos previstos em lei (Minas Gerais, 2001)”.

faithful fulfillment of the law, and cannot, in principle, contradict its prescriptive contents nor add to it” (Ferraz Junior, 2011, p. 202, free translation³⁵).

Therefore, Decree No. 47.998/2020 cannot amend Article 1, Sole Paragraph, of Law No. 14.130/2001, which expressly states that “for the purposes of this law, buildings or spaces intended for collective use are defined as commercial, industrial, or service-providing buildings or spaces, as well as residential apartment buildings” (Minas Gerais, 2001, free translation³⁶). No hermeneutic technique can equate “wilderness” with this definition of spaces intended for collective use. Hence, the portion of Decree No. 47.998/2020 that alters the definition of spaces for collective use in Minas Gerais, as outlined in Law No. 14.130/2001, to grant CBMMG the authority to coordinate forest fire prevention and combat measures in the state, is *unlawful*.

However, with the enactment of Federal Law No. 14.944/2024, which established the MIF National Policy, a specific section was dedicated to “Forestry Brigade Programs” in the chapter addressing its instruments. According to Article 11, *caput*, they comprise a set of actions to train human resources for implementing integrated fire management plans and “operative plans for forest fire prevention and combat, as well as for executing operational activities for environmental protection” (Brasil, 2024, free translation³⁷).

It is evident, therefore, that the National Congress, through the MIF law, legislated beyond the specific topic of forestry brigades, addressing broader measures for forest fire prevention and combat. Moreover, the same federal law regulates the relationship between forestry brigades and military firefighters (Brasil, 2024).

Indeed, Article 11, §2, establishes that voluntary or private forestry brigades must be registered with the respective state’s CBM (Brasil, 2024). Additionally, §2 of the same provision grants the respective CBM authority to regulate these forestry brigades, including their accreditation, operations, safety requirements, uniforms, and vehicle identification (Brasil, 2024).

None of the elements in Article 11 of Law No. 14.944/2024, however, imply any change in the relationship between forestry firefighters and military firefighters when implementing measures to prevent and combat forest fires in

35 From the original: “[...] servir ao fiel cumprimento da lei, não podendo, em tese, contrariar-lhe os conteúdos prescritivos nem acrescentar-lhe outros”.

36 From the original: “edificação ou espaço destinado a uso coletivo, para os fins desta lei, os edifícios ou espaços comerciais, industriais ou de prestação de serviços e os prédios de apartamentos residenciais”.

37 From the original: “planos operativos de prevenção e combate aos incêndios florestais e para a execução de atividades operacionais de proteção ambiental”.

Minas Gerais. Nevertheless, §5 was added to the article, stipulating: “In situations where the Military Fire Brigade acts in conjunction with the forestry brigades, the **coordination** and direction of the actions will be the responsibility of the military corporation, except as provided in §6 of the article”³⁸ (Brasil, 2024, emphasis added, free translation³⁹).

The remaining question is: Regarding the actions of forestry brigades in preventing and combating forest fires in Minas Gerais, the provisions of the CFM, which assigns coordination of measures to the FTP, prevail, or does the MIF federal law, which assigns coordination to CBMMG, take precedence?

As the MIF law is environmental legislation aimed at forest protection, it falls within the scope of concurrent legislative competence⁴⁰ shared by the Union, the states, the Federal District, and municipalities (Machado, 2022). Since Brazil has adopted a system of “non-cumulative or vertical concurrent competence” (Moraes, 2005, p. 279, free translation⁴¹) for matters related to forestry, nature conservation, and environmental protection, the Union is responsible for establishing general standards, while the states must provide specific regulations without contradicting them. Therefore, with the enactment of Law No. 14,944/2024, measures for preventing and combating forest fires carried out by forest fire brigades in Minas Gerais—except in indigenous lands, quilombola territories, conservation units, and other federally managed areas—will be coordinated by military firefighters when acting jointly (Brasil, 2024).

Conclusion

Forest fires are uncontrolled fires occurring in areas of natural vegetation, caused by either natural factors or human activities. Prevention measures, such as creating firebreaks, managing fuel, implementing alarm and monitoring systems,

38 According to Article 11, §6, of Law No. 14.944/2024 “The operations of the Military Fire Brigade in indigenous lands, quilombola territories, conservation units, and other areas under federal management will occur in coordination with the respective bodies competent for the environmental protection of these areas, which, in the case of federal areas, will be responsible for the coordination and direction of actions” (Brasil, 2024). From the original: “A atuação do Corpo de Bombeiros Militar em terras indígenas, em territórios quilombolas, em unidades de conservação e em outras áreas sob gestão federal ocorrerá de forma coordenada com os respectivos órgãos competentes para a proteção ambiental dessas áreas, aos quais caberá, no caso de áreas federais, a coordenação e a direção das ações”.

39 From the original: “Nas situações em que o Corpo de Bombeiros Militar atuar em conjunto com as brigadas florestais, a **coordenação** e a direção das ações caberão à corporação militar, ressalvado o disposto no § 6º deste artigo”.

40 Article 24, VI, of the CF88 (Brazil, 1988).

41 From the original: “competência concorrente não-cumulativa ou vertical”.

and enforcing legal regulations, are essential to preventing and mitigating their impacts.

Forest firefighting measures involve actions aimed at controlling and extinguishing fires that threaten ecosystems, communities, and economic resources, protecting lives and minimizing damage. Continuous training and the development of contingency plans are, therefore, critical. The primary objective is to control fires at their early stages, preserve ecosystems, and reduce socioeconomic impacts with an emphasis on self-protection measures and adherence to safety standards.

Coordination and execution of measures are fundamental in project management, public policies, and emergency response, each serving distinct purposes. Coordination focuses on organizing and aligning activities, defining responsibilities, and synchronizing actions to ensure efficiency and avoid duplication of efforts, while execution deals with implementing planned actions, applying resources, and meeting deadlines to achieve objectives. Both are interdependent: coordination sets the stage for effective execution, and execution turns plans into tangible results.

FTP includes CBMMG among its participants, but its general coordination is shared with other public and private entities. CBM plays a vital role in preventing and combating forest fires, safeguarding the population, the environment, and natural resources. Forestry brigades, although not formally part of the FTP, voluntarily collaborate in prevention and firefighting efforts, contributing significantly to environmental protection in Minas Gerais.

Collaboration between forestry brigades and military firefighters is key for effectively and safely combating forest fires. With complementary roles, forestry brigades often detect fires in remote or difficult-to-access areas and initiate an immediate initial response, while firefighters deploy advanced resources and specialized teams for structured interventions.

CBMMG operates as a military entity tasked with preventing and combating fires in urban, non-forest areas, in accordance with state legislation (Minas Gerais, 1999, 2001, 2012, 2013, 2018, 2024). It coordinates and enforces civil defense, public protection, and firefighting actions in buildings and spaces intended for collective use, which does not extend to forested environments. The prevention and combat of forest fires are coordinated by the state environmental agency responsible, specifically the FTP, as outlined in the CFM (Minas Gerais, 2013).

Law No. 22.893/2018 does not address forest fires but focuses on fires in commercial, industrial, or service buildings, as well as residential apartment

buildings (Minas Gerais, 2018), aligning with the provisions of Law No. 14.130/2001, with both explicitly addressing the prevention and combat of fire and panic, which should not be conflated with measures related to forest fires.

Furthermore, Law No. 14.130/2001 cannot be altered by Decree No. 47.998/2020, preserving its original provisions that link the prevention and combat of fire and panic to actions involving fires in commercial, industrial, or service buildings, as well as residential apartment buildings. Therefore, transferring the responsibility for coordinating forest fire prevention and combat measures from the FTP to CBMMG in Minas Gerais would be illegal.

However, in 2024, this question arises again from a different perspective. As forest fire management falls under concurrent legislative authority, a federal law cannot be contradicted by a state law. Accordingly, although the CFM designates the FTP as the coordinator of forest fire prevention and combat measures in Minas Gerais (Minas Gerais, 2013), the provisions of Article 11, §5, of Law No. 14.944/2024 take precedence, granting CBMMG competence to coordinate such measures when working alongside forestry brigades in areas that are not indigenous lands, quilombola territories, conservation units, or other areas under federal management (Brasil, 2024).

The distribution of competencies and responsibilities among various public and private actors highlights the legal challenges in implementing effective environmental policies, aiming to promote a further integrated and responsible management of natural environments. When analyzing the legal framework currently in effect in Minas Gerais, it becomes evident that internal political disputes over the coordination of measures to prevent and combat forest fires in the state are only resolved in favor of CBMMG with the enactment of the new federal legislation.

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