Climate Change as an Enabler for Plural Policing: The Case of Marine Rangers in Türkiye

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Abstract

In a contemporary security environment where climate change is increasingly understood as a global threat, this paper examines how it acts as an enabler for the emergence of new policing actors. Moving beyond the prevalent focus on how climate change affects public police, this research argues that climate change and environmental pressures necessitate a more pluralized approach to policing. This phenomenon is explored through a qualitative case study of the marine ranger system in Türkiye, established by the non-profit Mediterranean Conservation Society (Akdeniz Koruma Derneği, AKD) to combat illegal fishing in the maritime domain. The research contributes to the literature through the introduction of "non-profit ecological policing" (NPEP) as a distinct model. Unlike existing categories of plural policing, this model is characterized by its reliance on organized, financially sustained non-profit entities. It blends professional, paid roles with an environmental conservation mission. By analyzing data from publicly available action reports (2020-2025), the paper demonstrates how the marine ranger system is both a response to climate change and a novel form of policing. This study, by focusing on a non-Western case, enriches the theoretical literature on plural policing and highlights the critical role of non-state actors in addressing complex security challenges.

Key words: climate change, plural policing, Türkiye, rangers

1 INTRODUCTION

In the contemporary era, the undeniable link between climate change and security has compelled security institutions worldwide to reassess their roles. While militaries are adapting to disaster involvement and pursuing carbon-neutral operations, police forces are also transforming to tackle climate-induced risks and threats. The relationship between climate change and policing is a complex issue, with research largely agreeing that a multifaceted approach is needed. This is because climate change is transforming both policing as a practice and the police as a public institution (Matczak 2025; Blaustein et al. 2024).

Preliminary studies on the relationship between climate change and policing focus on how policing actors are increasingly involved in environmental conservation (Masse 2022). Other scholars examine how climate change—through resource scarcity, environmental crimes, climate refugees, and civil unrest—will directly and indirectly reshape policing functions (Mutongwizo et al. 2021; Van Vilet 2023). Some scholars even foresee the necessity of new policing mechanisms in response to global health crises or natural disasters triggered by climate change (Matczak et al. 2021), while others advocate for an "adaptive turn" in security governance, including police institutions, to address these existential risks (Blaustein et al. 2024). They argue that traditional, reactive policing lacks the foresight and capacity for the

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proactive, transformative approaches required. From another perspective, climate change has impacted the conditions in which policing is practiced (Raval et al., 2018). Although scholarly debates are extending on this topic and the question is analyzed from various perspectives, in practice, the reaction of the police toward climate change remains mostly limited. They are mostly occupied with tackling environmental protests, contributing to the improvement of a new legislation within the domain of eco-terrorism (Spadaro 2020), and using carbon-zero cars (Matczak 2025).

Moving beyond the prevalent focus on climate change's impact on public police, this paper argues that climate change can also be considered as a facilitator or enabler for the diversification of policing actors, methods, and practices. Admitting that climate change is not a factor, directly triggering the emergence of new actors of policing, this paper argues that climate change intensifies existing environmental and security problems and therefore creates greater demand for different forms of governance, including other policing or police-like actors. Thus, climate change should be analyzed as a new enabler that should be taken into consideration in the pluralization of policing actors. The paper in this regard engages with the literature on plural policing (Loader 2000; Crawford 2008). Moving away from a state-led monopoly on safety, plural policing describes a diverse network of security providers -including private firms, municipal teams, and community groups-who share the responsibility for public protection (Crawford 2008). This study terms 'non-profit ecological policing (NPEP) as a new type of plural policing emerged partially in response to climate-induced threats.

This phenomenon is best illustrated in the maritime domain and through a case study of the marine rangers in Türkiye. The system was established in 2013 by the Mediterranean Conservation Society (Akdeniz Koruma Dernegi, AKD). The primary aim of this non-profit organization is to fight adverse impacts of climate change to protect marine environment and the marine ranger system is an attempt to revolutionize the protection of No Fishing Zones (NFZs) in Gökova Bay. The ranger system, composed of former local fishermen and tasked with patrolling marine environments as paid workers of the AKD, is designed to fight primarily against illegal fishing and other environmental crimes such as illegal dumping and transport of various kinds of hazardous waste and their disposal. Complementary to Loader’s (2000) categorization of plural policing, this research introduces a new category, suggesting the non-profit organizational structure as a distinct funding and operational model for policing functions, potentially blending voluntary effort with paid professional roles. The key characteristic of this new model is its focus on protecting the environment.

1.1 Materials and Methods

This paper employs a qualitative research design, utilizing an explorative case study approach to examine the marine ranger system in Türkiye. This design is justified by the study's aim to explore an under-researched phenomenon and to develop a new conceptual model of policing. The data consists of publicly accessible action reports published by the AKD between 2020 and 2025. These reports were collected from the official AKD website. In total, five reports were analyzed. To ensure a rigorous and transparent selection process, a systematic document screening was conducted on the website. As all action reports mention the ranger system in a separate section, all action reports were included into analysis.

A qualitative content analysis was used to analyze the data through a systematic coding process. Data analysis was conducted using MAXQDA software through a qualitative content analysis. Following an inductive approach, the coding strategy unfolded in two distinct cycles.

First, open coding generated descriptive codes from raw text segments. Second, axial coding grouped these codes into a structured, hierarchical framework consisting of five primary parent codes:

- **Objectives:** Capturing core drivers such as *ecosystem preservation* and *climate change adaption*.
- **Policing-Functions:** Encompassing operational practices such as *patrolling*, *monitoring*, and responses to (fighting) *illegal activities*. As functions are mostly prevention-oriented, the prevention code was also included as a separate code.
- **Policing-Actors & Institutions:** stakeholder dynamics, specifically *collaboration with public institutions* and *local* actors.
- **Other Functions:** Documenting auxiliary duties such as *cleaning or rescue operations*.
- **Funding:** Tracking financial streams sustaining the system.

Through iterative refinement and cross-categorization of these MAXQDA codes, three primary overarching themes emerged: (1) the climate change-induced operational environment and preventive approach, (2) non-state funding of the ranger system, and (3) ecological conservation as the main objective. Police like duties such as monitoring, patrolling and fighting other illegal activities and their collaborative relationship with other law enforcement actors enabled the author to categorize rangers as a (new) model of policing. Specifically, the synthesis of the operational patterns, funding dependencies, and conservation targets derived from the coded data directly informed the three core features that define this model. By focusing on a non-Western case study, this research aims to offer a new perspective on how climate change is influencing security governance by empowering non-state actors.

Finally, the study acknowledges some important methodological limitations regarding data sources. Because the empirical evidence relies primarily on action reports produced by the AKD—the organization implementing the marine ranger program—these documents reflect institutional perspectives and cannot be treated as independently audited evaluations of operational efficacy. Consequently, the claims in this paper do not evaluate the program's ultimate success; rather, they use these organizational texts as empirical artifacts to demonstrate how a non-state actor operationalizes climate-induced security governance and to conceptualize a novel plural policing model.

2 PLURAL POLICING: A THEORETICAL PERSPECTIVE

The term "police" traditionally refers to a body of uniformed individuals responsible for crime control, order maintenance, and social service functions (Reiner 2010). While policing is often equated with the work of public police organizations, it has always involved a wider range of actors and existed long before the establishment of formal public police institutions (Rogers 2017; Go 2024). As Banton (1964) claims “a cardinal principle for the understanding of police organization and activity is that the police are only one among many agencies of social control.”

This understanding of policing's broader scope came to the forefront of scholarly debate in the 1980s. Scholars explored the "rebirth of private policing" (Johnston 2005), focusing on the commercial activities of the private security industry and the involvement of private companies in providing police services (Lister and Jones 2012; Watson et al. 2023). This shift was largely understood within the context of a neoliberal agenda, prompting critical discussions about the concept of public interest in private policing, its organizational forms, and its relationship with

the state (Johnston and Shearing, 2003). Scholarly consensus has since increasingly acknowledged the plural character of policing (Crawford 2011; Jones and Newburn 2006; Terpstra et al. 2013). This pluralization extends beyond the privatization of security provision and encompasses a diverse range of actors, including voluntary initiatives like citizen-led street patrols and government-led, police-like personnel such as the UK's police-community support officers (Lister and Jones 2012).

Within this complex landscape, plural policing has emerged as a crucial term to distinguish between the police (the institution) and policing (the function) (Rogers 2017). The concept describes the provision of policing services by multiple actors and diverse institutional arrangements, highlighting a departure from a state monopoly. The concept highlights the fragmentation and diversification of policing provision across various actors and spheres. Loader (2000) further categorizes this plurality into several forms: Policing "by" government refers to the traditional, official public police forces. Private policing forms secured "through" government include private companies undertaking security arrangements that are authorized or regulated by the state, such as campus police or licensed security in specific venues. Transnational policing arrangements taking place "above" the government encompass cross-border security cooperation and international law enforcement efforts. Markets in policing and security services unfold "beyond" government, referring to the commercial private security industry operating independently of direct state control, driven by market demand. Finally, policing activities engaged in by citizens "below" the government includes citizen-led initiatives like neighborhood watch schemes or individuals taking responsibility for their own security. Plural policing therefore refers to the patchwork of policing provision and authorisation which involves a mix of the police, municipal auxiliaries, commercial security and the activities of the citizens (Wakefield and Fleming 2009). After putting forward this categorization, Loader (2000) claims that these categories are clearly ideal ones and significant overlaps exist between the various policing forms.

While Loader's framework provides a comprehensive overview, further studies argue that other forms also exist, such as the municipal guards in continental Europe, which are "public but besides government'" (Devroe and Terpstra 2015). This pluralization of policing also involves complex collaborations, as seen in the joint efforts of volunteers, the private sector, and public police to ensure safety in Norway's nightlife (Foshaugen 2025). These examples illustrate that the pluralization of policing can be an unexpected side effect of other developments, not just a deliberate response to marketization (Terpstra et al. 2013). In other words, in response to other requirements for any other reason, new forms may emerge in the long run.

2.1 Introducing Non-profit Ecological (NPEP) Policing

This research introduces a new, hybrid category of plural policing that it calls NPEP, by focusing on the case of marine rangers in Türkiye. It refers to a crime prevention function undertaken or significantly supported by civilian initiative in the name of ecological conservation, funded and initiated by non-profit organizations. Its hybridity is defined by three key distinctions from Loader's classical category of plural policing:

Table 1: *Categories of plural policing / NPEP*

Policing Category	Funding Source	Guiding Mission	Personnel Model
Policing through government	Public budget	Non profit public good	Public authorized contract
Policing beyond government	Corporate / client fees	Private property & profit	Hires security contractors
Policing below government	Informal/unfunded	Civic protection / watch groups	Unpaid community volunteers
Non-Profit Ecological Policing	**Philanthropic / NGO grants**	**Ecosystem survival**	**Paid and salaried professionals**

- **Funding:** Unlike "policing below government," which relies on individual volunteers, NPEP leverages the organized and financially sustained efforts of a formal non-profit entity. Its funding relies on voluntary contributions by third actors. Unlike *"policing below government,"* which relies on unorganized individual volunteers, or *"policing beyond government,"* which is driven by corporate profit and client fees, this model is sustained by formal philanthropic grants and NGO funding. It operates entirely outside both the market logic and the state budget.
- **Personnel:** The marine rangers are often former local fishermen who view their role as an occupation, not a voluntary hobby, underscoring the professionalized mission. They are salaried and paid by the NGO. They are also trained by this same NGO. The marine rangers represent a distinct hybrid workforce—salaried and formally trained professionals (unlike unpaid volunteers below government), yet completely detached from a profit-driven corporate motive (unlike security contractors beyond government). They view their conservation work as an occupational career dedicated to ecosystem survival.
- **Mission and objective:** The primary driver of the ranger system is not profit, as with "policing beyond government," but a specific environmental conservation mission in a climate-driven environment..

This paper claims that climate change acts as a facilitator or enabler in the emergence of this new model of plural policing, as it contributes to the insecuritization of the marine environment. Following sections analyze why NPEP is proposed as a new model, rather than a hybrid category- within the context of climate change. The NPEP model is classified as a distinct category—rather than a mere variant within existing typologies. As analyzed in the subsequent sections, climate change acts as a systemic enabler that generates a new typology of risk—ecological insecurity. Traditional policing categories are fundamentally structured around state sovereignty, coercion, or private asset protection. In contrast, non-profit marine rangers do not possess any coercive capacity; their mandate is strictly preventive and ecologically oriented. Because climate-induced threats require proactive, ecosystem-level prevention rather than reactive enforcement (Matczak 2025), forcing this model into an existing variant would obscure its unique structural capacity to address environmental security.

The following section will explore the link between climate change and maritime security, with a particular focus on illegal fishing. It will argue that this new environmental context necessitates a different, more pluralized approach, suggesting that climate change acts as an

enabler for plural policing, which in turn becomes an unexpected side effect of these environmental pressures. As the following section will demonstrate, environmental protection requires both horizontal and vertical cooperation and collaboration among different actors, including states, communities, and other relevant agencies.

3 CLIMATE CHANGE AND MARITIME SECURITY

Climate change acts as an enabler or facilitator, compelling non-police actors to perform policing functions in the name of environmental protection, a trend highly apparent in the maritime security domain. Climate change directly and indirectly influences maritime security over various dimensions and this impact is crystallized in the concept of IUU (Illegal, Unreported, and Unregulated) fishing. In 2021, the US Coast Guard stated that IUU fishing had 'replaced piracy as the leading global maritime security threat (US Coast Guard 2020) and the impact of climate change on illegal fishing is undeniable.

Global warming has directly impacted fish populations as they move towards cooler waters. This may influence the nature of IUU fishing dynamics, as fish stocks are decreasing and fish are going deep water or changing direction. It should also be noted that, besides the impact of climate change on IUU fishing, IUU fishing itself risks exacerbating climate change. By capturing and exporting carbon to the deep ocean, fish are vital for carbon sequestration. Losing fish stocks means less carbon is absorbed, which could contribute to rising temperatures (Young et al. 2023).

Moreover, climate change may increase the vulnerability of coastal communities who are occupied with fishing for a living. Under these conditions of global warming and changing maritime environment, they are faced with the risk of losing their income for living. Coastal populations are particularly impacted by declines in the fishing and tourism sectors, which are often their main sources of income. As climate impacts disrupt economic well-being, particularly in sectors like fishing where livelihoods are tied to natural resources, individuals may turn to illegal activities to compensate for lost income. This can create an increase in maritime crime. For example, the increasing impact of climate change on fish stocks has a share in the involvement of more small-scale fishers in drug trafficking. According to scholarly studies, there is a significant rise in the global use of small fishing vessels for drug trafficking. Moreover, the use of fishing vessels in drug transhipment operations had tripled in eight years (Haenlein 2023). This convergence highlights a key security challenge: IUU fishing not only threatens marine life but often serves as a mechanism, providing the vessels, routes, and operational cover for other illicit activities, thus directly fueling the rise of blue crime patterns.

From another perspective, rising temperatures and severe weather events harm food security by reducing fishing. This scarcity will likely lead to an increase in illegal fishing as people seek other food sources, further straining marine environments already under pressure from ocean warming and acidification. This socio-economic strain, combined with biodiversity loss, gives rise to new patterns of "blue crime" that challenge the capacity of existing law enforcement (Pomeroy et al. 2016).

This relationship creates a dangerous feedback loop: maritime crime, such as illegal fishing and piracy, further degrades marine ecosystems and negatively affects the blue economy. These impacts exacerbate the very issues that initially contributed to the crime, such as resource scarcity and poverty, thus perpetuating a cycle. The interconnectedness of climate change, human systems, and natural systems means that the proliferation of one type of maritime crime

can also contribute to the emergence of others, further reinforcing vulnerabilities and creating a complex and self-sustaining security challenge. In sum, the dependencies between climate change and maritime security are well-established (Germond and Mazaris 2019).

Thus, in the maritime domain, there are two priorities: fight against environmental crimes triggered by climate change and protection of the marine environment. For policing environmental crimes triggered by climate change and protecting the maritime environment, a multi-level approach with the integration of various actors has become a requirement *per se.* Moreover, the protection of the marine environment is no longer solely a biophysical concern, but rather a preliminary condition for assuring a dynamic interaction between the environment, political, institutional, economic and social structures (Bueger 2020).

Community engagement is significant for tackling adverse impacts of climate change in the maritime domain. In Pacific Island countries, for example, policing maritime violations is heavily reliant on community reporting, a practice known as civic monitoring (Bueger 2020). As accentuated, conservation policing requires community engagement and community relations are central to any effort towards conservation policing (Alagesan 2025).

The marine rangers of the AKD are engaged in policing activities (monitoring, reporting and patrolling) in the face of climate-induced risks and for the sake of ecosystem security in the maritime domain. Their mission is not exclusively limited to reporting as in the case of civic monitoring. They are professionally trained and uniformed personnel. They are not publicly funded as in the case of conservation policing. Their *raison d'etre* is to fill the enforcement gap in tackling illegal fishing (ELSP 2018). The marine ranger system, established by AKD in 2013 and recruited among local fishermen, is essentially responsible for conducting sea patrols to protect marine ecosystem security, in constant collaboration with other law enforcement agencies such as coast guard, providing a tangible example of a new and different plural policing model. The next section explores main characteristics of the ranger system for demonstrating why it is necessary to suggest it as a separate model of plural policing.

4 THE MARINE RANGER SYSTEM: A CASE STUDY IN PLURAL POLICING

The effects of climate change on our oceans and seas are creating new and complex security challenges. In Türkiye, a clear example of this is the Gökova Bay (a neighbourhood of the municipality of Muğla) which is under immense pressure from a combination of environmental and human factors. Rising sea temperatures and the invasion of non-native species are disrupting the natural ecosystem and intensifying existing problems like overfishing or illegal fishing. These issues are not caused solely by climate change, but it acts as a threat multiplier, worsening the conditions and posing a serious risk to the health of the marine environment and the communities that depend on it. Thus, climate change is multiplying risks and threats in the maritime domain (Kuran et al 2025).

The AKD is a non-profit organization established to address several types of challenges in the maritime domain. Its mission focuses on protecting endangered species, restoring marine ecosystems, and ensuring the sustainability of traditional fishing communities. The AKD's primary strategies, as outlined on its website, are directly linked to combating climate change and its effects. Climate change is cited as a primary threat for marine ecosystems (AKD 2021). The organization monitors sea surface temperatures, safeguards blue carbon ecosystems, and addresses invasive species and supports the creation of Marine Protected Areas (MPAs) to enhance ecosystem resilience (Akdeniz Koruma Derneği n.d.).

To ensure the effective protection of the maritime domain, the AKD established the Marine Ranger system in 2013. The core purpose of the ranger system is to police No Fishing Zones (NFZs) in Gökova Bay. Although climate change is not cited as a primary domain of activity for marine rangers, the implications of climate change for marine ecosystems are well underlined in their action reports. When they summarize their main objective as environmental protection and ecosystem restoration, climate change finds a proper place besides these primary concerns, accentuating the linkage between climate and ecosystem. The rangers' mission is directly and indirectly linked to addressing climate-induced threats. They combat two primary problems exacerbated by rising sea temperatures: invasive species and illegal fishing. As warming waters disrupt traditional fish habitats, small-scale fishers may turn to illegal methods, creating a security burden that local government bodies are often ill-equipped to handle. Additionally, climate change has impacts that go beyond marine security. In recent years, fires are increasing in a significant way. During the fires in the region, rangers are also tasked with extinguishing fires and evacuating people from the area. Thus, climate change does not only determine the functions and responsibilities of rangers, providing them a *raison d'etre*, it also increases and multiplies their roles so that they are involved in other areas for fighting climate change (AKD 2024).

The rangers are local fishermen, subsequently educated and equipped with fast boats by the AKD. They patrol NFZs to document illegal activities, as a form of civic engagement. They were trained to monitor the NFZ and collaborate with coast guards and other governmental bodies (Ünal and Kızılkaya 2019). In their reports, the collaboration with other public officials (Coast Guard, Ministry of Environment, Urbanization and Climate Change) is well underlined. Particularly, their collaboration with the Coast Guard is accentuated. The patrols they organized in collaboration is an example of this close relationship. The data collected during patrols is reported to relevant government ministries, enabling monthly monitoring and collaboration with state authorities. According to the Action Report by the AKD, rangers carried out 1244 patrols in 2022, 954 patrols in 2023 and 1462 patrols in 2024 (AKD 2023, 2024, 2025).

The rangers are hired as AKD employees, with their salaries funded by the Organization and associated NGOs. This unique funding model sets AKD apart from the private sector, as a significant portion of its initiatives—including the marine ranger system—rely on non-profit support. Furthermore, this salary-based employment contributes to the professionalization of the rangers: beyond ecological concerns and local considerations, they earn a livelihood, making their roles as rangers a professional occupation rather than purely voluntary work.

In action reports, the concept of police or policing has never been used. However, monitoring, patrol, and fighting against illegal activities such as illegal mooring, illegal dumping and illegal fishing appear as primary domains of responsibility for marine rangers as they are giving harm to the marine ecosystem. Significantly, the enforcement gap for dealing with illegal fishing is well-underlined. Marine ranger patrols are primarily responsible for combating illegal fishing (AKD, 2022). However, rangers are not exclusively occupied with the protection of NFZ. According to the annual report of 2023, rangers detected 182 activities and 100 of these activities were illegal fishing (AKD, 2024). In other words, rangers reported other illegal activities such as polluting, illegal mooring or dumping waste into the sea. When tackling these illegal activities, the primary tool employed by rangers is monitoring. The comprehensive monitoring tracks key marine species, fish biomass, and daily fishing data, which helps in planning future conservation efforts and evaluating the impact of policing

activities on both biodiversity and the socio-economic well-being of the region (Revive Our Ocean 2025).

Besides monitoring, marine rangers do not have proper authority. Their role is limited to reporting to public authorities, without participating in any law enforcement task. These rangers frequently operate under a strictly observational mandate, lacking the legal power to detain suspects, seize illicit gear, or issue citations. A crucial question may arise at this point: since rangers do not possess executive power within the domain of law enforcement, should they be classified as a new category of policing? Why should their activities be understood as policing rather than environmental monitoring, conservation work, or civic monitoring?

When explaining the reasons behind the emergence of the ranger system, AKD puts forward the thesis of an enforcement gap within the domain of illegal fishing, arguing that the ranger system is primarily an attempt to fill this void. Moreover, climate change-induced risks and threats necessitate prevention-focused approaches; rather than being reactive, proactive policies are required to protect the environment and combat climate change. Consequently, prevention-oriented models like the ranger system emerge as problem-specific solutions. Because of their preventive perspective on ecological protection and their police-like duties against illegal maritime activities, these systems stand out as a distinct type of plural policing within a climate-driven context.

The AKD's marine ranger system exemplifies a hybrid category of plural policing that cannot be fully explained by Loader's framework. The hybridity is evident in its funding, personnel, and mission: Marine rangers are paid officers, not volunteers as in Loader's "policing below government." They are often recruited from local fishermen, leveraging their expertise while also providing them with a new occupation. The first female marine ranger Ayşenur Ölmez states that she was raised on a boat, born to a local fisher family. In Türkiye, there are almost 13.000 small-scale fishermen and their existence has the potential to contribute to the preservation efforts in the maritime domain. They aren't just paid staff; they are experts whose *prior livelihood* was threatened by the very crime they now police, creating unparalleled incentive and expertise. Their recruitment from local fishermen transforms a climate-vulnerable population into climate-security actors, simultaneously addressing livelihood loss and importing crucial local and ecological knowledge into the policing function. are driven by their conservation mission rather than market demand. The primary mission of marine rangers is preventing poachers from entering the NFZ. The recruitment of former local fishermen and the community-based approach help bridge the gap between local knowledge and formal policing. This focus on preventive policing against climate-induced threats demonstrates how the marine ranger system is complementary to traditional public police missions.

Finally, this case study challenges a central debate in the plural policing literature: the question of public interest. In the literature, the public interest debate centers on whether the shift from a state-centric policing to a networked policing preserves or erodes the idea of security as a collective public good (Loader and Walker 2007). Johnston and Shearing (2003) argues that the state is merely one node among many in a security network. According to them, if a private actor provides security effectively, they are contributing to the public interest. The focus is on outcomes and effectiveness. As a second view, Loader and Walker (2007) consider public interest as thick public good and the state should remain the anchor to ensure that policing is implemented democratically and in the name of the public. While much of the scholarship on private policing is concerned with the potential for private interests to undermine public good, the AKD marine rangers operate for the explicit public benefit of coastal

preservation and economic benefits for local fishermen, thus leaving little room for suspicion of private gain. As the AKD (2025) denotes “while the protection of species and habitats remains the core priority of our marine conservation efforts, these actions also directly contribute to the sustainability of small-scale coastal fisheries.” However, non-profit status alone does not resolve critical questions of legitimacy and accountability. Crucial questions remain regarding who authorizes the rangers, how their activities are overseen, how operational priorities are determined, and whose definition of the public interest is being pursued. Exploring these issues can significantly enrich broader discussions within the plural policing literature.

5 CONCLUSION

By exploring the case of marine rangers in Türkiye, this paper offers two significant contributions to the existing literature. First, it accentuates how climate change may contribute indirectly and partially to the multiplication of policing actors, illustrating a practical reformulation of policing practice driven by ecological necessity. Moving beyond analyses that solely link climate change to increased crime or social unrest, this study has been a further attempt arguing that climate change acts as a *facilitator or enabler* for the emergence of new forms of policing. It should be noted however that marine rangers do not emerge as the direct cause of climate change and their involvement in climate mitigation and adaptation is mostly partial. However, the case study demonstrates how non-state entities, motivated by environmental preservation, are increasingly stepping into roles traditionally associated with state-centric security.

Second, and perhaps more significantly, this research puts forward a novel categorization that extends Loader's (2000) pioneering framework of plural policing. While Loader's (2000) categories effectively differentiate policing based on its relationship to the state or market, this paper introduces "NPEP" as a distinct and crucial dimension. This category captures the unique hybridity of efforts that leverage voluntary contributions alongside formal organizational support from non-profit entities, driven by social or environmental missions rather. However, this new type of policing proposed by this study should be approached with caution, since rangers do not possess formal law enforcement authority. Nevertheless, given the escalating scale of climate-induced risks and threats, the paper highlights that the preventive nature of this new form of plural policing warrants further attention. Future studies might explore whether climate-induced threats necessitate preventive approaches that actively engage local communities and civilian actors, such as NGOs, as key partners. Ultimately, the risk environment shaped by climate change has the potential to redefine policing by shifting greater focus toward preventive and proactive frameworks.

For future studies, this emergent pluralism, particularly in its non-profit forms, holds profound implications for the legitimacy and public perception of policing. It has the potential to promote the idea of policing as a public good (Lister and Jones 2012). In an era of significant police staff shortages and growing public scrutiny (Van Vilet 2023), such collaborations may signal a viable path toward strengthening the image and capacity of policing organizations in the domain of sustainability. However, further research is required to explore the complex interplay among public policing actors, local communities, and ranger-type hybrid organizations. When evaluating the positive outcomes of such collaborations, analysts must account for the reluctance of public authorities to share their monopoly on the legitimate use of violence. Furthermore, the funding structure of the ranger system and its reliance on public

authorities could become a new source of tension, potentially undermining future public-private security partnerships.

Conflict of Interest Statement

The author declares no conflicts of interest regarding the publication of this paper.

AI Usage Declaration

The author declares that no artificial intelligence (AI) or AI-assisted technologies were utilized in the research, data analysis, drafting, or editing of this manuscript.

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