

Disaster Risk Culture for Crisis Management: Early Insights from the French Context

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ABSTRACT

This paper examines how citizen participation is shaped within French disaster risk culture in the context of climate change and the rise of emerging risks. While public policies increasingly promote citizens as active contributors to their own safety, institutional frameworks continue to limit participatory possibilities in crisis management. Drawing on preliminary findings from the ATEST research project, the study combines exploratory interviews with crisis-management actors and a sociological approach inspired by the sociology of participation. The paper argues that disaster risk culture should be understood not only through individual preparedness but also as a socially and institutionally structured process, in which participatory mechanisms determine who is granted access to crisis management and on what terms. This work in progress proposes an analytical framework to better understand the conditions under which a shared disaster risk culture may emerge between citizens and institutions at the territorial level.

Keywords

Disaster risk culture, Citizen participation, Risk prevention, Crisis preparedness, Crisis Management, Transdisciplinary approach

INTRODUCTION¹

In the context of climate change, the type and scale of risks affecting territories have renewed interest in crisis preparedness and the role that citizens can play. In France, public policy has emphasized the need for citizens to become “actors of their own safety”, as underlined in the 2004 civil security law (Loi n° 2004-811, 2004). This reflects what can be described as a participatory requirement, whereby citizens are expected to take an active role in public affairs. Yet, it coexists with persistent difficulties in concretely integrating citizens into crisis management (Bubendorff & Rizza, 2022), especially in prevention, preparedness and response.

This paper presents early observations from the initial stage of the ATEST² research project. It investigates how emerging risks may reshape interactions between citizens and local institutions in charge of crisis management. Based on seven exploratory interviews with institutional crisis-management actors and on an analysis of the French case, it proposes an analytical framework inspired by the sociology of participation in order to understand citizen participation not simply as an outcome of preparedness or awareness, but as a socially and institutionally structured process. We argue that this process shapes citizens’ capacity to engage in crisis preparedness (*i.e.* awareness of the risks and their anticipation) and in crisis management (*e.g.* proper behavior, self-help and support to crisis managers during an event) at a territorial level.

¹ DeepL and Antidote translators were used for language assistance throughout the drafting of this manuscript.

² ATEST - A Transdisciplinary Approach to Emerging Risks in a Given Territory: Rethinking Crisis Management in the Face of Global Warming (translated from French)

From this perspective, we scrutinize disaster risk culture through the lens of “participatory imperative” (Blondiaux & Sintomer, 2002), which highlights both expectations on citizens and institutional constraints, limiting sometimes their involvement (Reghezza-Zitt & Rufat, 2015).

We suggest that, in the French context, disaster risk culture remains conceived within an institutional framework with limited participatory scope, thereby structurally constraining citizen engagement despite an increasing normative expectation of participation. At the same time, we formulated the hypothesis that “emerging risks”, understood as risks occurring in unexpected dimensions (Rizza (Ed.), 2025) are presently challenging established crisis management doctrines and create new opportunities for citizens to take part in crisis preparedness and management. Facing these “emerging risks” becomes the occasion to foster new interactions between them and even leads to cooperation, particularly during risk prevention and crisis preparedness.

This work in progress paper introduces and discusses this analytical framework mainly built around three elementary questions: who participates, how, and to what end. Applied to the way institutional actors conceive citizen participation in crisis management, they allow us to shed light on how risk culture and resilience are articulated within the territories under study. It is a first stage of a broader transdisciplinary study on citizen involvement in the development of territorial risk culture.

STATE OF THE ART

Many studies have investigated conditions for the existence and effectiveness of territorial disaster risk culture. Concepts such as community or territorial resilience (Reghezza-Zitt et al., 2012), crisis preparedness and situational awareness (Lechowska, 2022) are central to these studies.

Here, we understand disaster risk culture as a locally anchored social process of dealing with natural or man-made hazards. Risk culture plays a fundamental role in community resilience. Risk culture emerges from the interaction between risk awareness and the body of knowledge available to citizens and institutional actors. This includes “land-use planning choices”, territorial characteristics, and “experiences of hazardous events”. Risk knowledge is “inscribed geographically and temporally” making “risk(s) culture” “territorially specific” (Rizza (Ed.), 2025).

Similarly, Benitez et al. define risk culture as “all knowledge about hazards, exposure, risk levels, and appropriate actions that enable individuals to cope with a potentially damaging event (Benitez et al., 2020)”. Risk culture is therefore understood as “a dynamic social construct based on individual and collective memories, individual experiences, preventive information, risk education, simulation exercises, etc. (Benitez et al., 2020)”

Risk culture emerges from the way risk is socially constructed and may therefore take different forms. As Gilbert, (2003) suggests, risk culture can stem from how state institutions normalize risks, from how citizens and the state may negotiate competing perceptions of it, or from how various actors may define it together through interaction. When focusing on citizens’ role in risk culture, literature can be broadly organized around two perspectives: studies that approach risk culture through citizens’ individual dispositions and preparedness, and those which examine how institutions define and structure citizens’ roles. Building on these two perspectives, we shed light on how sociological theories about participation can help explain how actors engage in the creation of a shared risk culture.

An Individual-centered Perspective: Disaster Risk Culture as Personal Preparedness Capacity

Research on crisis preparedness among citizens as a global phenomenon remains underrepresented. Fazeli et al. (2024) describe preparedness as “a relatively unexplored area” mainly focused on natural hazards. Analyzing over 200 papers on “individual disaster preparedness”, the authors identify two broad approaches: descriptive studies examining factors shaping individuals’ adoption of preparedness practices, and prescriptive studies applying active methods and interventions to assess their effectiveness in disaster education and training (Fazeli et al., 2024).

Within descriptive research, studies articulating individual preparedness and risk culture appear rare. Some drawn on the “values, norms and beliefs” paradigm to understand how citizens engage in crisis preparedness (Haunschild et al., 2024). Others examine how risk culture can be anchored in individual values (Appleby-Arnold et al., 2021). These works identify several factors that can shape the level of preparedness or the risk awareness such as income level, personal or indirect experience of crisis, crisis as a common discussion topic within communities. For some authors, national culture is a key factor explaining heterogeneity in risk culture. Based on a survey conducted in four European countries, Filippopolitis et al. (2015) show that preparedness levels vary across Europe. According to the authors, nationality plays an important role in understanding differences in preparedness within a broader context of general unpreparedness.

Cornia et al. (2016) systematize this approach by proposing three types to explain how risk culture develops at

the individual level depending on national context. They argue that the three following elements are structuring: “disaster framing, trust in authorities and responsibility attribution for risk prevention”. Based on these factors, they identify three types of risk culture: An individual-oriented risk culture, in which citizens feel responsible for their own safety and engage in preparedness in order to limit or avoid disaster’s consequences; A state-oriented risk culture, where citizens rely on public authorities and trust their ability to minimize risks and their consequences; And a fatalistic risk culture in which hazards – and crisis – are perceived as unpredictable and unavoidable. Among the countries scrutinized, France stands out as the only case in which all three ideal types coexist. The authors read it as an intermediary position characterized by the belief that authorities should ensure citizens’ safety alongside limited confidence in their capacities to do so (Cornia et al., 2016). The tension between “resilience imperative (Reghezza-Zitt & Rufat, 2015)” and these forms of risk culture is acknowledged here but remains relatively underexamined.

By focusing primarily on citizens’ dispositions and behaviors toward risks, these studies partly overlook how institutions themselves define citizens’ legitimate place within crisis management, preparedness, and risk culture. Yet such representations concretely shape the possibilities for citizen engagement. When institutional dimensions are mentioned, they often appear as concluding remarks rather than as the main object of analysis.

Institutional Representations of Citizens and the Deficit Model in Disaster Risk Culture

These institutional representations have been examined in a number of studies, which highlight both attempts to involve citizens in risk perception and crisis preparedness and the persistent limits of such inclusion (Ilona Grabmaier et al., 2025). The difficulty of co-producing a disaster risk culture with citizens has also been emphasized notably by Rocle et al. (2016). These authors point to a “deficit model”, which shapes institutional representations of citizens, where the “general public” is assumed to be deficient in scientific knowledge and therefore assumed to be irrational when facing risks or crisis.

The widespread use of social media in crisis management has provided an opportunity to reassess collaborative relationships between citizens and crisis managers. Research has addressed the veracity of online information and its use during crises (Palen et al., 2020) and the place such information may have within crisis management doctrines (Batard, 2021). While some research argues in favor of renewed trust between institutions and citizens, they also stress its limitations. Such collaboration with citizens often remains limited to the crisis-response moment (Batard, 2021), is only engaged with specific types of citizens such as the Virtual Operations Support Team (VOST hereafter, (Rizza, 2023), does not always overcome the verticality of crisis communication between institutions and citizens (Bubendorff & Rizza, 2022) and does not systematically strengthen cooperation capacities between them (Reuter et al., 2016; Scanlon et al., 2014).

In France, the expert working group established by the Ministry of Ecological Transition in 2021 consider risk culture to be underdeveloped across territories : “local elected officials invest little in this issue and, as a result, inform and train themselves little” (Courant et al., 2021). The authors attribute this “collective failure” to difficulties in “reaching the population: information is not always designed from the users’ standpoint, it relies on forms and means that are too heterogeneous to achieve the objective of a shared culture, and it struggles to evolve in order to adapt to the different publics targeted”(Courant et al., 2021).

Disaster risk culture in France is still conceived within a largely non-participatory framework, which structurally limits citizen engagement despite normative expectation of participation addressed to individuals. Understanding why this gap persists requires a theoretical framework attentive to the social and institutional production of participation.

Insights from Sociology of Participation

Such a framework can be found in the sociology of participation, which helps to explain the tension between participatory ambitions and institutional constraints.

Studies of participatory programs sometimes acknowledge some effectiveness (Theuwis et al., 2025), yet many also emphasize their limits (Blondiaux, 2022). These programs tend to be deployed more within consultative bodies rather than decision-making arenas (Mazeaud & Nonjon, 2018), where participatory arrangements are used to disseminate already-decided policies rather than serving as a space for the co-construction of democratic governance (Blondiaux and Sintomer, 2002). They are even sometimes described as operating as a form of social control and a means of disarming criticism of public policies (Gourgues & Le Mazier, 2021; Rui et al., 2013).

Given the representations of citizens that continue to shape institutional practices, the obstacles identified in participatory mechanisms more broadly offer a useful lens for understanding the conditions under which a shared disaster risk culture may emerge between citizens and institutions.

In France, crisis management—and more specifically, disaster risk culture—remains a state prerogative, in which

citizens are often viewed as “civilians who need to be protected.” This makes the question of the citizen’s role in crisis management even more sensitive. The sociology of participation offers a relevant analytical framework for addressing this issue. Specifically, the concept of “participatory mechanisms” (Gourgues & Petit, 2022) proves especially relevant as it allows to understand citizen integration as a top-down process in which local institutions mobilize them. This defines both who can engage and in what manner (Gourgues & Segas, 2021). More specifically, the mapping of participatory mechanisms proposed by Gourgues and Segas offers a useful framework for understanding the conditions of public participation. The authors structure this mapping around four dimensions: legal framing, participatory openness, deliberative intensity, and decisional scope. This framework provides a consistent lens for analyzing how institutional actors conceive of and represent citizen participation in crisis management.

RESEARCH QUESTIONS AND METHODOLOGY

The methodological framework of the ATEST research project proposes a communicational approach to crisis management. It aims to support more collaborative practices between stakeholders of a given territory based on disruptive scenarios of natural events and companion modeling workshops. The project is transdisciplinary in the sense that it has been defined and is implemented in close collaboration with practitioners, mainly firefighters. Thus, the firefighters’ departments of the Yvelines, Eure-et-Loir and Haute-Savoie have been partners of the project since its definition. In France, these services operate at the departmental level. Consequently, this collaboration shapes the fieldwork of the project, therefore conducted across these three territories.

More specifically, this collaboration facilitates access to crisis managers and decisionmakers of these territories. Firefighter departments constitute our key entry into the territory and our lens to study interactions through the territory. Following the transdisciplinary approach, cities, municipalities and prefectures have also been selected and approached with these services – for some of them based on recent past disasters.

The project relies on a mixed-method data collection approach combining a state-of-the-art review and grey literature analysis, observations (both in real-life situations and during simulation exercises), interviews (exploratory or semi-structured), online ethnography, and companion modeling.

We are currently implementing its first exploratory phase, conducting interviews with crisis managers across two out of the three territories. At this stage, interviews have been carried out at the departmental level with representatives from the following institutions: five participants from fire and rescue services, one municipal representative, and one local state agent³. The interviews were then transcribed and coded using thematic methodology.

Based on this exploratory phase, we primarily aim to understand how citizens are already involved at the territorial level. To do so, we ask crisis managers about four topics: characteristics of the population; collaboration with citizens during the prevention and the crisis; trust-building with the population.

The second stage will consist in identifying and meeting with citizens as a whole in order to capture their perspectives about crisis management and the role they may play in it. At this stage we will specifically differentiate experts (e.g. Akrich, 2010) from “spontaneous” citizens (e.g. Batard, 2021). The first are already integrated into crisis preparedness and management – such as farmers, associations or communal reserve members. The second appears spontaneous in case of an event (Reuter et al., 2013). The transdisciplinary approach aims to specifically discuss how to identify and include “spontaneous” citizens.

FIRST FINDINGS

Skilled or expert citizens as legitimate interlocutors in crisis preparedness and management

Initial observations and interviews conducted with crisis managers reveal some ambivalence in how citizens are perceived, both as “acting in good faith” and as a “population in need of protection”. This dual dynamic is reflected in the contrast between institutional actors who describe the population as “*not self-reliant*” and “*constantly reliant on emergency services*” (Male, firefighter, rural area) and those who emphasize their “goodwill” (Male, firefighter, suburbs) particularly during the recovery phase.

The deficit model remains salient in crisis managers’ representations. During the interviews, a firefighter noted that his colleagues “appear more open than in the past to integrating citizens”. Yet this perception remains grounded in a persistent suspicion toward citizens which may distance them from crisis management. While this tension is particularly acute during the crisis-response phase, difficulties in taking citizens into account run

³ Translation for « agent préfectoral ».

throughout crisis management as a whole (Grabmaier et al., 2025).

Beyond these representations, debates over the place of vernacular - or profane- knowledge continue to shape institutional perspectives on citizens' know-how. Citizens with specific or professional skills are more easily incorporated into crisis management, the "common" citizen is frequently overlooked. The VOSTs illustrate this dynamic well. The association VISOV (*Volontaires Internationaux en Soutien Opérationnel Virtuel*) is the French counterpart of VOST associations. Its members monitor social media as crises unfold, with the aim of providing institutional actors with real-time situational awareness of affected territories. Notably, many of its members are civil security professionals who contribute their operational expertise to the virtual monitoring effort (Batard, 2021). This involvement is entirely voluntary, carried out in members' own time and independently of their official responsibilities. VISOV has gained recognition at the highest levels of French crisis governance and has been known to cooperate directly with the Ministry of the Interior during crisis response operations. Similarly, locally on the territory of Eure-et-Loire a partnership has been developed between Fire and Rescue services and farmers in managing field fires. This partnership includes the development of shared practices which aims at preventing or containing field fires in the future. In case of fire, farmers can be called upon by firefighters in order to strip stubble from the fields. They also exchange information on weather conditions (wind, dryness) to determine the best moment to harvest, since these specific professional habits can start fires under specific conditions.

In both cases, these two categories of citizens are taken into account by institutional actors because of the expertise projected onto them. Thus, firefighters may be evolving - as suggested in the interview mentioned above - but this shift of perspective applies only to very specific profiles. In that sense, participatory openness (Gourgues & Segas, 2021) remains structurally limited: it is their knowledge or competences perceived as valid, rather than citizen status, that determines who gains access and can contribute to risk prevention, crisis preparedness and management. Consequently, expertise contributes to a broadening of whom can be included into risk prevention and crisis management. It may be the sign of an emerging shared territorial risk culture between crisis professionals and others. Nevertheless, "common" citizens are still unlikely to be meaningfully brought into it. However, the COVID-19 period highlighted forms of citizen goodwill, whether organized through associations or more spontaneous initiatives: mask making, production of hand sanitizer, and mobilization to provide moral or organizational support to more vulnerable people (Batard et al., 2022; Rizza, 2022). These initiatives were, for the most part, welcomed across different levels of the state, notably at the most local level of the French chain of command (in municipalities and fire and rescue departments).

For the most part, these were episodic forms of engagement, activated in a context of crisis but rarely translated into durable collaboration. In that sense, they did not contribute to a shared disaster crisis culture with citizens. The French platform "Je veux aider" ("I want to help"), widely used during lockdown periods across the country, illustrates this dynamic. Rather than fostering sustained engagement, it supported citizens to participate in volunteering missions, locally or remotely. As noted by Cottin-Marx (Jan. 2022), platform activity declined sharply after the lockdown periods. In 2021, the most frequently undertaken missions focused on supporting isolated individuals (Cottin-Marx, 2022), far more so than activities directly related to preparedness or crisis management. Missions more explicitly connected to disaster risk culture—such as emergency warnings, prevention activities, or providing support during a crisis—were available but remained marginal.

What Objectives Does Citizen Involvement Serve: Rethinking Crisis Management or Controlling Costs?

A second line of inquiry emerges from the analysis of the field data collected in this first phase. It concerns the objectives underpinning the integration of citizens and can be approached by understanding participatory processes as cost-containment mechanisms within crisis management doctrines. Recent examples of citizen involvement during crises are sometimes analyzed as responses to a lack of resources from competent authorities, as in the 2018 forest fires in Sweden (Kvarnlöf & Eriksson, 2024), or the many citizen initiatives observed during the 2020 lockdowns (Batard et al., 2022). Social media have also been investigated as an opportunity for citizens to enhance community resilience, as during Hurricane Irma (Batard et al., 2018).

These cases raise the question of what citizen inclusion is meant to accomplish across the different phases of crisis management. In many cases, citizen integration (by crisis institutions) is more the result of a successful reactive response to an unfolding crisis than the result of a deliberate effort to build a shared risk culture within a given territory (in risk prevention and crisis preparedness stages). In the French fieldwork, the "citizen municipal civil security reserve"⁴ emerged as an example of this process. During an interview, a small town's mayor referred back to a major flooding event and described herself as "completely overwhelmed". She lacked both action plans to respond to the event and resources to mobilize. Some inhabitants organized and made it easier for her to cope with the crisis:

⁴ Freely translated from « réserve citoyenne communale »

” During the flood, a lot of people mobilized. It’s also what triggered this reflection [of building a citizen municipal reserve]. In every neighborhood, people came out...in those cases, it’s extraordinary, the strength of solidarity. And you tell yourself: it’s a shame not to structure that!”

A few months after this event, she initiated the creation of a “communal reserve”, integrating into the institutional process the solidarity of inhabitants willing to take a bigger part in local crisis management.

According to French law, citizen municipal civil security reserves are designed to “support civil security services when events exceed their usual operational capacities or in specific situations” ([Article L724-1](#), French internal security code). This includes assisting populations, providing logistical support, and helping restore normal activities. They may also contribute to preparing citizens to cope with risks. A study conducted for major French trade unions (Cottin-Marx, 2022) assesses the extent to which citizen mobilization is intended to compensate for declining public funding. Examining several “municipal citizen reserve”, the author shows that managers repeatedly insist that citizens’ engagement is not intended to replace permanent staff, but rather to complement municipal action. These arrangements address several issues while also institutionalizing citizen engagement, signaling a renewed place for citizens within crisis management. While such solidarity can be welcomed, it also suggests that the opening of a space for citizen action sometimes occurs in contexts of limited institutional resources.

As the project progresses, we will have the opportunity to observe these initiatives and the discussions that may take place regarding risks and risk management. Hopefully, this will allow to assess the extent to which they genuinely involve citizens. Analyzing the interactions between citizens and institutions these initiatives facilitate will also provide further insight into whether they enable residents to become familiar with risk culture - and even to help shape it at the local level.

CONCLUSION

This work in progress highlights participation as a key condition for the development of a shared disaster risk culture- understood as a socially and institutionally structured process. The preliminary findings suggest that the way institutions define citizens’ roles strongly shapes the possibilities for engagement, revealing tensions between participatory ambitions and institutional constraints.

Trust, liability attribution, and interaction dynamics emerge as central dimensions in understanding these tensions. While citizens are increasingly encouraged to take an active role in risk prevention and crisis preparedness, institutional representations often remain marked by ambivalence. This duality shapes both the forms and the limits of cooperation between citizens and crisis-management actors.

Taken together, these observations call for a renewed analytical framework for citizen involvement in crisis preparedness. Drawing on the sociology of participation, such a framework allows to analyze how institutional arrangements, participatory systems, and socio-technical objects shape the conditions under which a collective risk culture can emerge. This will be further examined in the next steps of the project. These include additional interviews with crisis managers across the territories, meeting with expert citizens, identification and mapping of common citizens potentially relevant in the face of specific emerging risks, and companion modeling workshops to initiate and discuss with both citizens and crisis managers of a given territory.

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