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# Trust in disaster resilience

Trust  
in disaster  
resilience

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## Abstract

**Purpose** – The erosion of ‘trust’ (among citizens as well as within and between institutional levels) is a worrying aspect of these turbulent times in Europe and beyond. Trust (between citizens and institutions, citizens and experts, policymakers and experts, and among different levels of governance) is crucial in all dimensions of disaster resilience. Risk perceptions stem from a complex web of feedback between individuals, communities, institutions, and experts. Sometimes, institutions and experts are slow or even resistant to accepting signals and knowledge about risks coming from the grassroots. Or, it is the other way around, and citizens are skeptical about the information coming from institutions and experts. Thus, trust must work in all directions (from citizens to institutions, from experts to citizens, etc.) to build a cooperative framework for action.

**Design/methodology/approach** – Our article aims to explore the construction of trust and distrust in communities dealing with historical, actual, or potential disasters by putting forward a three-dimensional approach (societal, cooperative, and institutional). We convey the idea that less tangible aspects such as culture, contextual history, knowledge, and habits shape the perception of risk, the degree of preparedness and, ultimately, the impacts of environmental changes.

**Findings** – These elements affect cooperative behaviors, and it is expected that the institutional environment – which will vary across domestic, national, and regional contexts – will play a significant role in nurturing trust or distrust in relation to disaster risk.

**Originality/value** – This article will offer valuable insights by developing a new conceptual framework that can be translated and validated by future research.

**Keywords** Trust, Culture of risk, Memory, Cooperation, Multilevel governance

**Paper type** Research paper

## 1. Introduction

The summer of 2022 demonstrated how weather conditions are going berserk. The Northern Hemisphere has had an increase in the number of wildfires, as seen in Greece; communities in Australia and the United States (California), and elsewhere have been suffering from heatwaves (e.g. in Spain, Canada, and Japan where temperatures rose above 40 °C). The impact of climate change is becoming increasingly evident and public concern is on the rise all around the globe.

Uncertainty and climate instability are altering our conceptions of the environment. This sense of a risky climate environment is shaping a “new commonplace” that affects whom, what, and how we trust (Stehr, 1997, p. 168). Humankind has always faced the dangers of natural hazards, but the “arbitrariness of restless weather” affects efforts at trust-building as well as its interaction with the perception of risk, the degree of preparedness, and ultimately the ability to improve the capacity-building initiatives for disaster resilience (Beck, 2009; Bhamra *et al.*, 2011). Scholarship does not offer a unique definition of resilience, “the term is a ‘boundary object’: it has multiple definitions which do not necessarily correspond”



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(Soubry and Sherren, 2022). According to Manyena (2006, p. 434), not only does the concept of resilience still lack a clear definition but we know even less about how to apply it in disaster management. We share the concerns about the political use of this term, which can lead to regressive policies. Maria Kaika (2017) has argued that resilience often becomes the codeword for indicating the abdication of the institutions' responsibility to provide any service to subaltern communities. Against this background, this paper proposes a progressive interpretation of resilience. A resilient community does not go back to where it was before the stress provoked by the disaster event and it does not survive without any external support. A community is resilient when it is not annihilated by the problems it is facing but acts to address them by understanding their causes and unequal effects. Our conception of resilience is thus more firmly based on *trust* than the mainstream interpretation, because it centers on mobilization and recognition and not only on the ability to keep working/reacting. Its goal is transformative rather than conservative and is achieved through strengthening the "ability to adapt, adjust, survive even thrive, given our vulnerability" to environmental changes (Fineman, 2021).

The concept of resilience in relation to complex action problems, such as disasters, requires action at the individual, organizational, and community level (Chandler, 2014). Furthermore, trust or distrust facilitates or impedes collective responses to disasters (Lahusen, 2020). Although often neglected in both policies and analyses, social factors, cultures, contextual history, and local knowledge determine access to or exclusion from disaster resilience. They do this by shaping the relationship between trust and risk perception and by differentiating the impacts of hazards across social groups, as well as the capacity to recuperate in a transformative way. These determinants emerge while considering "success stories" and "failures" in the way societies have responded to hazards and threats over time (Pfister, 2008; Jeongmin and Daewoong, 2022). One such story concerns Japan, which is well-known for its technological culture. Research has emphasized how after the "Triple Disaster" [1] of 2011 the society faced a "communication disaster". This was due to the limited information, which led citizens to distrust their public authorities and experts, accelerating "the segmentation of Japanese society" and reducing collective action (Fujigaki, 2015, p. 17–19). Another interesting case is the earthquake that occurred in 2009 in Aquila (Italy), where the excessive trust in local authorities prevented local communities from relying on their "culture of earthquake" and adopting self-protective measures and close cooperation to face the disaster [2].

Significant research on the role of trust and distrust has appeared in the past few decades in the fields of sociology, political science and philosophy (Luhmann, 1979; Gambetta, 1988; Barber, 1983; Fukuyama, 1995; Misztal, 2011; Putnam, 2001; Hardin, 2006; Hawley, 2012; Uslander, 2018; Lahusen, 2020; Levi-Faur, 2021). Despite the absence of any unanimously agreed framework (Fukuyama, 1995; Seligman, 1997; Ostrom and Walker, 2003; Hartmann, 2015; Adjekum *et al.*, 2017), some of these theories have entered the field of disaster studies, for instance in relation to climate change (Dinesen, 2012; Jung and Song, 2018; Marion Suiseeya *et al.*, 2021; Kreutzer, 2022; Jeongmin and Daewoong, 2022). These studies have started to identify specific dimensions – cultural, socioeconomic, and political ones – that shape processes through which lasting trust, at both community and institutional level, can be built and preserved. Nevertheless, some limitations persist in the extent to which they operate together to nurture trust at various levels in times of uncertainty.

Against this background, this article makes a novel contribution to the debate by advancing the theoretical investigations into the construction of trust. It documents how risk affects determinants of trust/distrust in three dimensions: (1) society, (2) cooperation, and (3) institutional governance. In fact, risk perceptions and community bonds (key to

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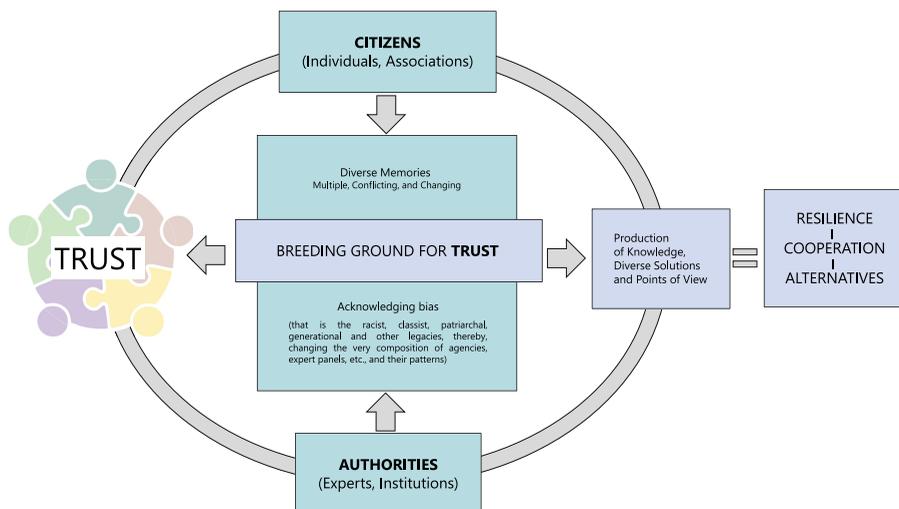
preparedness and first responses) are built on trust and the failure of this relationship could affect the ability to build resilience to climate-related disasters. The reception of governmental policies crucially depends on the legitimacy and trust the government enjoys among citizens. Furthermore, the effectiveness of local authorities' actions depends on the role that communities have in the decision-making processes. As we will argue throughout this article, our understanding of trust is radically different from having a blind faith in the authorities. We envision trust as a dialectic process; rather than obeying the authorities' command, trust is the process of deciding together what actions should be undertaken to address disasters.

## 2. Societal dimension: dialectic memories and critical risk culture

Scholars have attempted to understand how memories of past disasters have been incorporated in or expunged from collective practices (Pfister, 2011; Rohr, 2023). Humanities research analyses the evolution of the way in which disasters are explained or understood in different societies, and the measures taken to prevent or deal with them. Historical and anthropological research provides data on the recurrence of disasters in specific areas, which can help mitigate their effects on society (e.g. the pan-European open-access platforms *European Archive of Historical Earthquake Data* – AHEAD and SHARE European Earthquake Catalogue, the Italian open-access database on floods and landslides *Sistema Informativo sulle Catastrofi Idrogeologiche* – SICI, the database on earthquakes of the Indian Center for Seismology). Building upon the issue of recurrence, some historians have tried to answer the fundamental question of how much societies can learn from the past (Schenk, 2015; Lübken, 2014). The study of disasters offers an almost unique opportunity to test the applicability of historical knowledge to contemporary policies. Hard sciences take the historical sequences of disasters seriously and make the case for including historical knowledge in disaster prevention and risk planning.

As collecting historical data on past disasters for risk planning is a well-established principle, this article aims to go further by arguing for a broader understanding of memories. In concrete terms, this means including not only data but also the stories about disasters, their causes, and consequences from a qualitative perspective. Such memories are often dissimilar because vulnerabilities to disasters are context-based. Different groups experience damages, solidarity, and institutional support in divergent ways. Therefore, the memories not only affect the preparedness of a community but also the potential to build the trust needed. Memories thus become a crucial, too often overlooked, factor – both in research and policies – that influence the construction/disruption of trust.

We envision the construction of trust as the result of a circular dynamic connecting citizens and authorities (see Figure 1). Trust is represented neither as the center nor as the final output of the process. Rather than thinking of trust as a governing device, we see it as a process (the breeding ground for trust at the center of our diagram) that occurs only when the diverse memories of a disaster meet the authorities' acknowledgment of their bias and willingness to address them. In other words, there will be no trust if the diverse memories of the disaster will not be heard, and the authorities will not recognize and change their bias in managing emergencies and risks. It is that breeding ground, that process of trust making, what produces a more inclusive knowledge able to mobilize diverse solutions and points of view. In how many empirical cases did the complete dismissal of citizens' experience and knowledge led to the ineffective management of both risk prevention and rescue operations? That breeding ground will generate resilience, cooperation and alternatives through the co-production of knowledge. Again, in our vision trust is not the aim, the desired outcome but a process through which a community can achieve resilience and explore alternatives.



**Figure 1.**  
Figure by the  
co-author, Marco  
Armiero, and by  
Francesco De Fino,  
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### 2.1 Disaster memories

In her analysis of the 2011 tornado in Joplin, Missouri, Sunday Moulton has unearthed the various practices of memory-work through which the community has made sense of the disaster, including “public ceremonies, monuments, individual storytelling” (Moulton, 2015, p. 319). Although Moulton explores the ways in which memories are embedded into the landscape in a material way, she notes that memories are not static and frozen in time; rather, memories are recalled and performed differently across time and groups (Moulton, 2015).

Common sense suggests that preserving the memory of past disasters is key for developing a culture of risk management because it may help people to be prepared. But a simplified version of memory-work leads to at least two analytical mistakes. First, the verb “preserve” refers to a static understanding of memory; it seems to propose a reification of memory, not so different from the conversion of folklore and indigenous cultures to the status of a museum exhibit. Hence, memory is seen as a “thing” that should be preserved in its pure form so it can be passed down through the generations. In our approach, memory is, instead, *a dialectic process*, which is not given or taken for granted but continuously negotiated and re-enacted on the basis of power relationships. Preserving a memory assumes the existence of one straightforward memory, as with archaeological remains, exposing it to the risk of being eroded and canceled out by time or other natural elements. The reification of memory, in fact, also has the effect of naturalizing its disappearance. Hence, preserving memory does not address the power dynamics that determine what ends up in the dump of history (Armiero, 2021).

The second analytical mistake is the declension of memory in the singular form. Common sense suggests that we – and the content of this “we” might also be quite questionable [3] – should preserve memory, thereby learning from it. Memory in the singular form refers to a reassuring intellectual project devoid of conflicts. As the task is “to preserve,” the object can only be a single memory in danger of going extinct. We agree with Julie Maldonado (2016, p. 52) that “in disaster-related policies and practices, culture is often treated as tangible, homogenous, static.” In our approach, memories are conceived instead as always *multiple, conflicting, and changing*. They do not get “naturally” eroded or go extinct. Regimes of memory dictate what must be remembered and how, what counts as memories, and who is entitled to tell the (hi)story. More importantly, a regime of memory establishes the official

narrative, and most of the time that narrative serves to invisibilize and naturalize injustices and violence. Regimes of memory are especially relevant when we speak of disasters; invisibilization and naturalization of injustices and violence are staple ingredients in the recipes for the perfect depoliticized memory of disasters. And, often, this mainstream narrative is what ends up being preserved through public ceremonies, monuments, and all the paraphernalia accompanying a regime of narrative. This is why the aim cannot be “to preserve the memory,” thereby learning from it, but to besiege the single memory with a multiplicity of conflicting memories. It is precisely in those breaks, in the interstices where conflicting memories clash, that we might learn something. It is in the making and remaking of memories that new conceptions of resilience appear. Memory is not a fragile artifact in a glass case, rather it is a malleable product in the making. We argue that this dialectic and conflictual (re)making of memories is a key ingredient in the nurturing/squandering of trust. The erasure of subaltern memories, the rejection of what some scholars have called “narrative justice” (Armiero, 2021; Barca, 2014; Houston, 2013) do not allow any possible trust between affected communities and institutions.

## 2.2 Decolonizing disaster

Memory and trust do not pertain only to the disaster as an event – memories of what occurred and trust in those who are supposed to intervene – they are also crucial beforehand, when a risk can potentially become a disaster. In her research on the Philippines, Ocampo Go (2017) mentioned the shared knowledge about the recurring typhoons, especially among women. Also in the Philippines, Dalisay *et al.* (2016) have looked at the grassroots knowledge and practices about how to act during typhoons compared to the governmental measures forced on local communities. With a focus on climate change, Rice *et al.* (2015) have developed the concept of “climate praxis,” that reflects the multifold “nonscientific ways of knowing [that] include intimate experiences and family histories of changing weather, concerns for landscape changes associated with rapid exurban development, and threats to culturally valued, historical ways of life by an influx of climate migrants” (p. 254). This concept can be expanded to other disaster realms.

When a subaltern community has lived the experience of being considered second- or third-class citizens during relief operations (e.g. African Americans’ memories of Hurricane Katrina) or if poor people believe they were not protected by public agencies against impending disasters (e.g. the Bhopal accident in India, the Vajont Dam disaster in Italy), institutional trust is difficult to achieve. Systemic racial-, class-, and gender-based inequalities challenge the operationalization of trust across social groups and between citizens and institutions. For instance, social scientists have shown that interaction with police corps varies across race, class, and gender; the stratified memory of oppression and abuse cannot be ignored in a naïve design of disaster management.

Trust, then, is not ahistorical. Disasters occur in communities loaded with their histories of privilege and oppression. This does not concern only the unequal treatment of some groups by institutions or the stratification of hostilities among diverse groups; it also relates to the hierarchies in knowledge production and legitimation. Grassroots knowledge is often devalued, ignored, or even derided. Shazana Andrabi (2022) has argued that a Western-centric approach to disaster is unable to produce effective policies, especially in the Global South; and we agree with her on the necessity to decolonize disaster knowledge while stressing the gendered dimension of disasters.

## 3. Cooperative dimension: mobilizing local communities for disaster resilience

To strengthen theorization on the nature of trust relationships it is crucial to look at trust engagement at community level and the many forms that it takes in disaster risk

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environments. [Cook et al. \(2005\)](#) argue that trust “works primarily at the interpersonal level to produce microlevel social order and to lower the costs of monitoring and sanctioning that might be required if individuals were not trustworthy” (p. 1). From this perspective, trustworthiness is embedded in power relationships that determine the possibility of trust according to the degree of mutual dependency between actors and the nature of the alternatives for the parties involved (p. 15). In emergencies, citizens need to be mobilized (i.e. helping the injured or disabled; self-organizing support; wearing masks; staying at home or leaving home; keeping distance) not only to protect and enable themselves to cope successfully with the event, but also to act as catalysts for the protection of others.

These arguments are nested within the authors’ idea of “encapsulated interest,” which goes beyond shared values as the foundation of trust, adding nuances and improving trustor–trustee relations. Encapsulated trust develops when an entity (i.e. an institution, nongovernmental organization, neighbors, or individuals) takes the interests of another (i.e. a community in the case of socioecological disasters) to heart and captures such interests within its own ([Cook et al., 2005](#), p. 5). Even though this concept has attracted some critics, we think that it still helps to enhance an approach that articulates trust and cooperation in risk perception and disaster assessment. This implies not only interactional, structural, moral, and (ir)rational aspects, as well as shared norms and values, but also “incentives in place that make cooperation productive” ([Cook et al., 2005](#), p. 15).

Sociological theories suggest unexpected outcomes when considering the impact of weak ties on social cohesion, depending on the situation. “Small-scale interaction becomes translated into large-scale patterns, and . . . these, in turn, feed back into small groups” ([Granovetter, 1973](#), p. 1360); and “weak ties are seen as indispensable to individuals’ opportunities” (*ibid.*, p. 1378). Strong and weak ties – their content and variations – may have different amounts of cohesive power in responsiveness to disasters. They act at different levels and, unexpectedly, strengthen bottom-up efforts to face risks and emergencies.

In a configuration where many actors are supposed to interact, socio-anthropological scholarship on disaster has pinpointed the potential importance of a view from below. First of all, disaster concerns display global–local linkages and, thus, need multi-scalar responses that pay sufficient attention to the local level. Secondly, locally tailored solutions are more effective than official standardized ones, and no technical solutions can function without being integrated into the subjective reality of the people affected ([Barnes et al., 2013](#)). Such relations are often embedded in specific local knowledge ([Scott, 1998](#)) and subject to meso- (i.e. local supporters, associations) and macro-actors’ influences (i.e. governmental measures, international campaigns, media, and communication, among others) and dependencies based on power relations. From this perspective, cooperative trust-building is a *process* and, as such, it needs the perspective of an analytical process, which is driven by network relations between many entities. At the center of this process are the local communities and individuals, both citizens and foreign residents, exposed to risk or affected by disastrous damage. Drawing on development studies ([Gardner and Lewis, 2015](#)), for instance, a social sciences’ analysis of climate change dynamics highlights that “successful social changes need to be developed not for, but *with* the people affected.” Thus, the solutions need to be scaled down and informed by the situations at the bottom ([Eriksen, 2021](#)). This has several ramifications for trust and cooperation in wider disaster contexts.

### *3.1 Social solidarity and vulnerable populations*

It is crucial to reach vulnerable populations in order to unpack the construction of trust in “social relations.” This is important to enable critical engagement with the operationalization of disaster risk governance and to reinforce “social solidarity” ([Stehr, 1997](#), p. 167). The vulnerable populations include migrants and ethnic minorities, which often seem to be disproportionately

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affected in times of crisis caused by disasters (Dash, 2013; Bolin, 2007). This appears to be closely linked to socioeconomic factors, especially precarious living conditions, and to experiences of discrimination and racism (ibid.). Socioeconomic disparities and inter-generational fractures are also apparent in the recovery phase and influence the reception of the governmental measures implemented to sustain affected populations. As Quarantelli (1992) aptly puts it, “there can never be a natural disaster, at most there is a conjuncture of certain physical happenings and certain sociological happenings” (p. 2). Conversely, “race and ethnicity by themselves are not an adequate explanation, what matters is how these factors intersect in spatially specific ways to shape a person’s class locations and their access to social and economic resources” (Bolin, 2007, p. 189). Taking again the example of Hurricane Katrina, “evacuation orders were less likely to reach, less likely to be trusted by, and less likely to be followed by persons of color and lower-income residents in New Orleans than more affluent and white residents” (see among others Bolin, 2007, p. 194). De facto spatially marginalized and disadvantaged communities have less access to the resources necessary to cope with disasters and future hazard events (Collins, 2010; Mustafa, 2005). As Bolin (2007) observe, beyond Hurricane Katrina – which called attention to the overlaps between race, inequalities and social vulnerabilities – such social inequalities are “foundational conditions that shape both disaster and environmental risks at global scale” (p. 182). Thus the concatenation of sociospatial and biophysical factors helps to explain the positioning of individuals and communities in the complex configurations related to disasters. Individuals tend to inform themselves about climate change and/or to gather useful tips in pre-emergency situations. In this context, cyberspaces and communities, which are not limited by geography or temporality, contribute to informing disaster activism and fostering new lines of trust and cooperation. Nevertheless, digital inequalities may shape the access to (counter) informative sources (Madianou, 2015). Such inequalities can marginalize the section of the population that have no access to information and communication technologies, obstructing the communities’ effort to understand what climate issues are central and how they are dealt with online.

Cooperation is also related to temporality. It is harder to foster cooperation among communities “when the need for action as a response to a threat is distant, speculative, unlikely, or of unknown magnitude” (Wachtendorf *et al.*, 2007, p. 406). In contrast, the very experience of a disaster – and even the disproportionate losses – encourages people to adopt new behavior (Moore, 1958). The perception of necessity and timely cooperation to deal with a climate threat is part of the process of trust coordination, which defines the environmental resilience of a community. Among the environmental capabilities associated with the probability of resilience, Zakour and Gillespie (2013) include: “the availability of external social supports and resources including trusting relationships; access to health, education, welfare, and security services; and (c) affiliation with religious organizations (Green and Conrad, 2022); access to warm relationships and guidance from family members and relatives, connections with one or more types of pro-social organizations, and access to high-quality education” (p. 148). These capabilities help to strengthen ad-hoc nodes of cooperation in communities and among individuals and official actors. An alignment of interests and incentives is necessary for this to occur, either via the direct involvement of individuals or via the action of legitimate intermediaries (Enarson *et al.*, 2007). Here, again, the social characteristics of the individuals define their practices; women for instance are more likely to speak about near-cooperation as family ties and shared culture, or, more concretely, in terms of food and money.

### 3.2 *Metis vs. techné*

Cooperation in response to a disaster needs to consider all the previously mentioned social factors – among others – and propose a grassroots empowerment strategy for disaster

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management. Some projects and methods are already moving in this direction. More precisely, [Chhoun \(2016\)](#) observes that the whole spectrum covered by community-based disaster risk management (CBDRM) (risk, assessment, mitigation, preparedness, response, and rehabilitation from disaster) requires the adoption of indigenous risk-coping knowledge. Regrettably, CBDRM still takes a top-down approach. But this leads us to think about Scott's notion of *metis*, in contrast with that of *techné* (technical knowledge). *Metis* represents "a wide array of practical skills and acquired intelligence in responding to a constantly changing natural and human environment" (p. 313). It is the "mode of reasoning most appropriate to complex material and social tasks where the uncertainties are so daunting that we must trust our (experienced) intuition and feel our way" (p. 327). In this light, a community driver process would rely on trust while building and understanding the community and its needs as well as its rules of thumb transmitted locally and adjusted over time. The trustworthiness between the actors is rooted in the recognition of the pre-existing knowledge and not on the preformatted solutions. The challenge of this path – and also in community-based disaster risk assessment and action to understand how danger is constructed at the local level and according to people's specific characteristics ([Enarson et al., 2003](#)) – is to acknowledge that technique and rational scientific knowledge cannot be enough. For instance, in the Andes, farmers predicted interannual rainfall and temperature change based on the visibility of the Pleiades star cluster, which in turn depended on El Niño weather events ([Orlove et al., 2000](#), in [Eriksen, 2021](#)). In East Asia, regional customs and philosophical systems have developed in relation to weather ([Williamson, 2020](#)). This form of *metis*, as well as folk memories, can improve political and even scientific decisions, and supports multi-scalar cooperation for responding to climate change. To foster intra-community cooperation and cooperation with the authorities, the involvement of individuals and local communities in the decision-making processes relevant to risk prevention and disaster assessment have been studied. So far, the opportunities for citizen engagement and public participation do not appear to have been fully exploited and still need to be fostered.

#### **4. Institutional and governance dimension: building trust-responsiveness**

The third dimension of trust relationships relates to "public trust" or "institutional trust." It seems intuitive that governance requires trust, but what kind of trust is relevant when we face uncertainty? "Trust is a precarious state," and this reality manifests itself in the relationship between communities and authorities ([Boswell, 2018](#)). According to Khodyakov, institutional trust "depends on perceived legitimacy, technical competence, and ability to perform assigned duties efficiently" and this could prove to be quite problematic when trying to tackle complex socioecological problems ([Khodyakov, 2007](#), p. 123). Today, national governments are increasingly taking measures to prevent and/or mitigate future threats. This has significant implications for putting in place effective governance systems addressing socioecological crises. In the words of Boswell, overstretched modern states are "increasingly implicated in regulating areas characterized by risk" and are involved in complex regulatory negotiations ([Boswell, 2018](#), pp. 31–33) that generate onerous expectations that cannot be "feasibly met" by the states ([Boswell, 2018](#), p. 30). This could explain the emerging problems of "disappointment" or "disenchantment" with politics, due to a lack of confidence that is resulting in a breakdown of trust ([Boswell, 2018](#), p. 32). Some scholars describe a decreasing level of trust or a real "trust crisis" ([Gille and Brall, 2020](#), p. 233), which could hinder the successful adoption and implementation of disaster risk regulations. The aim is to identify the role of institutions and regulatory governance in the development and maintenance of trust by overcoming this "expectations gap."

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#### 4.1 The role of local authorities

Trust-responsiveness cannot be determined solely by political processes at the national level, but also necessitates the ramification of provisions pursued at a local institutional level. Several studies emphasize the creative power and the central role of local actors, local governments, the private sector, nongovernmental organizations, and community-based organizations by defining a “practice-based” understanding of law-making processes. As illustrated by Fitzgerald and Wolak, “there are good reasons to believe that people see local governments through a different lens than they see their national government” and this could be associated with the ability to attain a higher level of trust by offering them more opportunities for engagement and participation (Fitzgerald and Wolak, 2016, p. 130).

We argue that local authorities can enhance trust and formulate an innovative governance system for disaster resilience by matching risk concerns with economic and social needs. Regarding disaster governance, some countries, such as Japan, New Zealand, Italy, and Vietnam, have already allocated specific roles to local governments. However, there is a risk that this re-orientation of responsibilities might be perceived as an additional “burden,” especially in very small communities where other concerns and priorities can outweigh those about risks and disasters. In fact, multilevel governance “stands at the intersection of multiple processes of activation from above (from the state and supra-national institutions) and from below, from lower tiers of government.” This can be a significant shift, but there is little systematic analysis on the premises and challenges of this process of “downward” shift (or “decentralization”). At the same time, disaster experiences, such as the Vajont Dam disaster in Italy, highlighted that different levels of government may come into conflict because of a lack of coordination<sup>[4]</sup> or due to mutual mistrust, such as in South Korea (Jeongmin and Daewoong, 2022).

Finally, in addressing the role of local authorities as trust-preservers, it is relevant to investigate the role of trust-based relationships in climate regulation. Scholars have highlighted “the real potential of trust” in achieving effective and efficient regulations by opening up new ways for engaging with collective action. For example, when developing environmental regulation local authorities can be offered the opportunity to influence and participate in the drafting process (Lange and Gouldson, 2010). As illustrated by Lange and Gouldson, societal trust can influence how people will interact with a regulator and at the same time a regulatory regime could “generate new trust, enhance existing trust or destroy trust” (Lange and Gouldson, 2010, p. 5236).

In this scenario, enhancing trust relationships could be supported by adopting a “participatory-transparent style of regulation” that provides opportunities for what Barber identified as “effective” distrust, which is described as an “essential component of political accountability in a participatory democracy” (Poortinga and Pidgeon, 2003, p. 970). In this regard, Pidgeon *et al.* adopted the concept of “critical trust” to draw attention to the need for the coexistence of some degree of “healthy skepticism” to ensure a fruitful relationship between the people involved and the institutions, which could enhance levels of trust by ensuring responsive regulation regimes (Lange and Gouldson, 2010, p. 5238).

## 5. Conclusions

Working across disciplines, our article has captured the interaction of a web of factors that determine trust relationships and potentially improve disaster risk resilience: cultural norms and attitudes, cooperation, and multilevel governance. Placing trust at the center implies a focus on how different actors interact to cope with risk through both formal and informal arrangements in the “present future” (Luhmann, 1976, p. 141), and what is at stake in terms of values, memories, knowledge, meaning, provisions, motivation, and incentives. We started by observing how the concept of time is a crucial aspect of trust in any resilient strategy. The

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relationship between past and future is relevant for a cultural elaboration of reality (Luhmann, 1976, p. 135). Nonetheless, we have not proposed a “religious” understanding of trust. Lately, in this era of fake news and the delegitimation of democratic institutions, we have been asked to “believe” in science, and governments root their arguments in science and technical progress (Beck, 2012). While belief suggests an almost religious attitude, trust seems to be a more appropriate, secular feeling. Having trust in science means trusting the methodology rather than just the results.

Successful progressive resilience depends on the active engagement of individuals at national and local level, as well as effective management of regulation. Walking the shaky and perhaps narrow path between skepticism and trust is the challenge we have in front of us.

Something similar can be said about democratic institutions. Trusting democratic institutions also has more to do with participatory processes and critical thinking – i.e. with their methodology – than with believing. To be more explicit, one might follow the instructions of a police officer during an evacuation and still fight to defund the police. Or, in many cases, communities have implemented self-organized post-disaster strategies trusting the method of democratic institutions rather than the institutions *per se*. In short, as Figure 1 illustrates, trust as a process incorporates conflicting memories and divergent interpretations, as well as local, national, and international interactional dynamics, knowledge and long-term political decisions. Conversely, the silencing of expression of those differences jeopardizes trust. This is true not only in the scientific production of knowledge but also in policymaking and planning. As represented in Figure 1, trust does not erase conflicts and memories of oppression and injustice. On the contrary, to build trust, authorities and citizens need to meet in a middle ground where the awareness of bias and injustice and the plurality of knowledge create a favorable environment to nurture a democratic version of trust. Trust as a participatory, democratic, and reparatory process is a transformative tool that goes beyond disaster management and risk assessment to change the relationships between citizens, authorities, and the experts.

Further research is needed to explore the role of emotions, such as fear and hope, in shaping regulatory regimes. As highlighted in the work of Bianchi and Saab, “not only do emotions play a role in shaping our perceptions of events and our reaction to them as individuals; they also play a major part in determining social identities and culture, in shaping beliefs and collective attitudes” (2019, p. 365).

Securing our societies against the increased impacts of the multifold socioecological crisis while ensuring full respect for core values such as human rights is indeed one of the major challenges of the twenty-first century. Speaking from the point of view of indigenous people, Kyle Whyte (2020, p. 2) has written: “Consent, trust, accountability, and reciprocity are qualities of relationships that are critical for justice-oriented coordination across societal institutions on any urgent matter.”

## Notes

1. The earthquake, the tsunami, and the nuclear plant accident.
2. The Italian Supreme Court has been called to evaluate to which extent the reassuring information provided by the public authorities the day before the earthquake had an influence on the decisions of the local communities to refrain from adopting adequate adaptive strategies. In particular, civil protection during a mass media conference reassured the population of the lack of an imminent risk of disaster. According to the Court this reassuring strategy affected the “psychological” behavior of the citizens who refraining from putting in place well-rehearsed practices of disaster prevention – as part of their collective ‘culture of earthquake’- and they have been taken by surprise the night of the earthquake. This resulted in the deaths of several lives. Supreme Penal Court, decision 25 March 2016, No 12748.

3. The critique of the encompassing “we” in the Anthropocene narrative is well-known; it erases any difference by proposing a human subject that is quite difficult to identify. On this see [Armiero 2021](#).
4. The different documents collected by the Italian National Commission established in 1964 after the Vajont Dam disaster (1963) highlighted how local majors were extremely worried and aware of the in-coming disaster and they tried to inform the Italian government that instead didn't react to their SOS alerts. Commissione Parlamentare d'inchiesta sul disastro del Vajont, Relazione finale, 1965, Doc. 76-bis.

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Trust  
in disaster  
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