Voluntas: International Journal of Voluntary and Nonprofit Organizations

www.cambridge.org/vts

Legitimizing the Informal: A Polycentric Argument for Inclusive Crisis Management

Katarzyna Wodniak[1,2]

[1]School of Social Work and Social Policy, Trinity College Dublin: The University of Dublin and [2]University of Social Sciences in Warsaw (Społeczna Akademia Nauk)

Research Paper

Cite this article: Wodniak K. (2026). Legitimizing the Informal: A Polycentric Argument for Inclusive Crisis Management. *Voluntas: International Journal of Voluntary and Nonprofit Organizations* **37**, 631–643
https://doi.org/10.1017/S0957876526000859

Received: 30 October 2025 UTC
Revised: 12 August 2026 UTC
Accepted: 17 August 2026 UTC

Keywords:
Crisis management; Polycentricity; Civil Society Organizations (CSOs); Informal actors; Trust

Corresponding author:
Katarzyna Wodniak;
Email: wodniakk@tcd.ie

Abstract

This article examines how formal civil society organizations (CSOs) perceive and engage with informal actors in crisis management and investigates the relational dynamics that bind diverse actors in polycentric governance systems. Adopting a qualitative interpretivist epistemology, the study proceeds from the premise that social realities, including organizational relationships, legitimacy, and trust, are constructed through meaning-making and intersubjective understanding. Drawing on interviews, focus groups, and case studies with 53 CSOs across multiple European countries, the study employs a modified grounded theory approach, consistent with interpretivist traditions that prioritize contextual understanding over objective measurement. The findings reveal a clear divide among formal CSOs. One half dismissed informal actors as untrained risks requiring hierarchical control, reflecting a command-and-control orientation. The other half demonstrated a polycentric orientation, recognizing and legitimizing informal actors without attempting to absorb them. Where polycentric attitudes prevailed, relationships were characterized by four elements: trust built through recognition rather than hierarchy, flexibility in distinguishing specialized from transferable tasks, equality emerging through co-production, and temporality leveraged as a resource for adaptive, short-term cooperation. The article contributes to understanding the relational dynamics within polycentric crisis governance by specifying how these four elements are enacted in practice. In doing so, it helps operationalize polycentricity for crisis management, a contribution called for in the literature. From an interpretivist standpoint, these findings do not claim generalizable causality but instead offer a theoretically grounded understanding of how actors themselves make sense of, negotiate, and co-construct effective cooperation across organizational boundaries.

Introduction

Crisis management has increasingly shifted toward wide-scale cooperation among state first responders, military agencies, and diverse Civil Society Organizations (CSOs). Yet cooperation remains challenging due to differing organizational cultures and communication systems. Much effort has focused on developing the "hardware" of governance (Boin & 't Hart, 2010), formal structures, standardized procedures, and interoperable technologies, rooted in a command-and-control approach increasingly viewed as insufficient for dynamic crises (Drabek & McIntyre, 2003). As Capano and Toth (2025) argue, moving beyond rigid command-and-control requires systems characterized by polycentricity.

This article shifts focus to the relational "software" (Boin & 't Hart, 2010), investigating networks, power dynamics, and interorganizational ties that constitute polycentric crisis systems (Koinova et al., 2021; Ostrom, 1990). It asks: what are formal CSO attitudes toward informal actors, and what is the substance of relationships binding actors in polycentric systems? The study focuses on CSOs, broadly defined to include local branches of international aid organizations, first responder and emergency services, emergent self-organized volunteer groups, and grassroots community organizations, united by their participation in crisis response and their operational independence from government and military structures. Sampling across this spectrum captures how attitudes toward informal actors vary within civil society itself. While all respondents are from CSOs, their reflections on cooperation with state agencies, the military, and other formal actors provide rich data on how different governance architectures are negotiated in crisis management.

Drawing on interviews, focus groups, and case studies from a Horizon 2020 project, the European Union's framework program for research and innovation, the study employs a modified grounded theory approach (Bryman, 2012; Charmaz, 2006; Creswell, 2013) across three iterative steps. Framed through polycentricity (Ostrom, 1990), the analysis examines how polycentric arrangements can include or marginalize informal actors.

The study reveals how four core elements of a functioning polycentric system, namely trust, flexibility, equality, and temporality, are built, sustained, or undermined. It contributes to understanding the relational dynamics within polycentric crisis governance by specifying how

© The Author(s), 2026. Published by Cambridge University Press on behalf of International Society for Third-Sector Research. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (http://creativecommons.org/licenses/by/4.0), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

these elements are enacted in practice: trust emerges through recognition rather than hierarchy, flexibility through distinguishing specialized from transferable tasks, equality through co-production, and temporality as a resource for adaptive, short-term cooperation. In doing so, the study helps operationalize polycentricity for crisis management, a contribution explicitly called for in the literature (Boin & 't Hart, 2010; Capano & Toth, 2025; Drabek & McIntyre, 2003).

Literature review

The limits of command-and-control in crisis management

The organization of crisis response in many countries has been historically shaped by a command-and-control model, rooted in the paramilitary traditions of civil protection (Neal & Phillips, 1995; Quarantelli, 1987). This approach seeks to "order chaos" through strict hierarchies, predefined plans, and formalized procedures (Drabek & McIntyre, 2003). While the bureaucratic form provides clarity and breaks down complex tasks, it is also criticized for its inflexibility and slowness (Capano & Toth, 2025; Weber, 1978), traits ill-suited to the dynamic and unpredictable nature of crises (Drabek & McIntyre, 2003; Whittaker et al., 2015). Boin & 't Hart (2010) question this model as a "myth," arguing that an overemphasis on the formal "hardware" of institutional structures comes at the expense of the relational "software"—the communication, trust, and cooperative relationships between diverse actors that determine operational effectiveness. Bridging crisis management and public policy, Capano and Toth (2025) argue that moving beyond rigid command-and-control requires systems characterized by "polycentricity, and coordinated autonomy" (p. 14), insights that speak directly to the limitations of purely hierarchical approaches.

Command-and-control logic is not confined to state agencies but has also been adopted by some established CSOs. Through close cooperation with state and military actors, some CSOs have experienced a convergence of norms, leading to bureaucratization that mirrors top-down control (Chaulia, 2011). This approach can shape perceptions of legitimacy, sidelining emergent groups and local communities who lack formal structure but are active in disasters (Drabek & McIntyre, 2003; Łapniewska, 2022). This lack of recognition inhibits the openness and flexibility required for an inclusive response. As Capano and Toth (2025) note, polycentric governance implies coordinated cooperation of many actors and does not necessarily mean the absence of hierarchy, but a recognition that effective crisis management requires moving beyond exclusive reliance on formal, hierarchical structures. While the organizations might still internally operate as hierarchies, they would not attempt to exercise hierarchical control over other actors in polycentric system.

The reality and potential of informal actors

In contrast to the rigidities of formal systems, the emergence of self-organized groups is a persistent feature of crises. Driven by solidarity and humanitarian impulses, people naturally come together to help, forming bottom-up, temporary organizations (Quarantelli, 1986; Simsa, 2017; Simsa et al., 2019). Classified as "emergent organizations" (Dynes, 1970), they have ambiguous mandates and unstructured processes (Boin & 't Hart, 2010), yet are not necessarily uncoordinated. During the refugee crisis and COVID-19 pandemic, emergent groups used digital tools to self-structure with remarkable speed and creativity (Łapniewska, 2022; Meyer & Simsa, 2018). Simsa et al. (2019) note a shift toward episodic volunteering, where spontaneous volunteers emerge especially during social crises, often substituting for an absent response system. The temporality of these groups is a key feature, allowing for rapid mobilization and dissolution post-crisis, yet their contributions are often dismissed by formal actors constrained by a command-and-control worldview (Stallings & Quarantelli, 1985). As Paciarotti et al. (2018) demonstrate, such integration is possible: during a flood in Italy, a local Caritas organization successfully managed spontaneous volunteers by improvising based on need rather than predrafted plans, contrasting with official responders who saw no role for spontaneous volunteers.

Local communities represent a vital yet underutilized informal resource, possessing invaluable local knowledge. However, the relationship between formal actors and communities often remains hierarchical, with communities treated as subjects of expertize rather than active agents (Li, 2005). This dynamic reflects Scott's (1998) critique of high-modernist policies that privilege expert knowledge while systematically disregarding local knowledge, a pattern that reproduces itself in crisis management. Consequently, meaningful engagement that genuinely values local knowledge remains scarce, preventing relationships built on equality and mutual respect (Sanderson et al., 2025). Simsa et al. (2019) propose that CSOs can address this by creating space for new organizational structures, establishing framework conditions for self-organization, and providing resources for care and coordination.

Polycentricity as an alternative framework

To overcome the limitations of the command-and-control model, where some actors either exercise hierarchical control over other actors or exclude non-typical informal actors, this study adopts polycentricity as its core analytical framework. This concept describes governance systems where multiple, independent actors self-organize (Ostrom, 1990), shifting the focus from static institutions to dynamic, relational networks (Koinova et al., 2021). This lens is particularly suited to crisis management, as it facilitates a deliberate shift from the "hardware" to the "software" of response, broadening the range of actors to include the full spectrum of crisis responders (Dynes, 1994). At its core, polycentricity examines the inter-organizational ties that form the "binding glue" of a network (Koinova et al., 2021, p. 1992). The analytical focus is on how these ties are built and maintained. A critical, though undertheorized, element of this relational glue is trust, which largely determines the capacity of these relationships.

Polycentricity as a concept is deeply indebted to Elinor Ostrom, whose empirical approach began with existing forms of governance as constructed by multiple actors (1990). Drawing on bottom-up observation, she outlined principles for effective polycentric systems that facilitate restoration of local ecosystems through co-produced multi-stakeholder arrangements. Although her work centered on environmental commons, the framework has proven highly transferable to other domains, including crisis management. Nevertheless, Jordan et al. (2015) caution that enthusiasm for polycentricity must be tempered by a harder look at the evidence. Reliable metrics on whether polycentric governance is working as hoped remain scarce.

The current study acknowledges these limitations. Rather than focusing on quantitative performance data, it examines the power dynamics inherent in polycentric governance systems. Koinova (2022) proposed a relational approach to polycentricity, yet argued that it requires further empirical investigation, a gap the current study seeks

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

to address through qualitative inquiry focused on relationships within such systems. The analytical framework draws on Schobert et al.'s (2023) conceptualization of social capital as a situational resource (availability, accessibility, and activatability). To interpret the findings, the study also engages with Scott's (1998) critique of high-modernist policies, both of which illuminate how expert privilege can marginalize local knowledge within polycentric arrangements.

Beyond its theoretical foundations, polycentricity enables the mapping of relationships among formal agencies, emergent organizations, and local communities. Empirical studies show that polycentric systems foster adaptability (Ansell et al., 2021), though fragmentation can lead to coordination failures, highlighting the importance of bridging organizations and network leadership (Nowell et al., 2018). Storr et al. (2017) argue that polycentric systems using dispersed local knowledge are better suited for local recovery than monocentric systems, offering two key advantages, namely the ability to draw on context-specific information and the flexibility to provide assistance at the appropriate scale. Crucially, they find that strong social networks, shared values, and prior disaster experience support collective action, a finding that resonates with this study's emphasis on shared values and existing networks as drivers of self-organization.

The relational foundations: Social capital

Understanding how order and cooperation emerge in a diffuse polycentric system requires examining the substance of the relationships that constitute it. This involves a theoretical lens of social capital embedded within networks. Social capital, the "trust, norms, and networks" that enable collective action (Putnam, 1995), is the essential resource within the relational "software," an aggregate of resources available through networks of relationships, functioning as a reservoir of trust and reciprocity that facilitates coordinated action. However, much of the social capital literature focuses on individuals, whereas the present study examines social capital mainly among organizations as a feature of a polycentric system.

Crises can dynamically reshape social capital, giving rise to spontaneous networks and bridging capital through mutual help based on shared fate, a phenomenon termed disaster social capital. Yet Schobert et al. (2023) caution that social capital is not automatically an asset as it can be inaccessible, disrupted, or diminished by social norms. They introduce situational social capital, distinguished by the three dimensions of availability, accessibility, and activatability, with activatability being the most potent determinant of whether social capital actually increases resilience. The present study contributes by examining how institutional support for ad-hoc groups can serve as a mechanism for increasing activatable social capital, while also fostering the openness, equality, and temporality necessary for meaningful cooperation with diverse actors.

In synthesis, this framework posits that effective crisis response is best understood through a polycentric model. The viability of this model depends on the activatability of social capital residing in its relational networks. Together, these concepts provide the tools to analyze how the "binding glue" of a resilient crisis response system, characterized by trust, flexibility, equality, and temporality, is actively formed, even within the constraints of temporary engagements.

Methodology

Research design and overview

This study was part of a three-year Horizon 2020 project, leveraging a multi-stakeholder consortium of emergency practitioners, academics, and industry partners. The component of the research into civil society actors aimed at investigating the "software" of cooperation in crisis management to complement its "hardware" focus (Boin & 't Hart, 2010). The research employed a modified grounded theory approach (Bryman, 2012; Charmaz, 2006; Creswell, 2013) and proceeded through three iterative steps, with findings from earlier steps informing the design of subsequent ones. By design, research conducted in Step 1, although with its own objectives and research questions, was intended to lay the foundation for research in Step 2. Step 3 did not involve new data collection. Figure 1 illustrates the application of the grounded theory approach, presenting examples of codes, concepts, categories, hypotheses, and the substantive theory at each step. Adopting a qualitative interpretivist epistemology, the study moves beyond description toward analytical explanation of relational dynamics in polycentric governance systems.

Step 1: Community resilience in crisis management (June 2020–June 2021)

To address the research questions concerning how community is understood in crisis management and how community resilience is best defined and approached, an initial purposive sample of eight CSOs was selected across Austria, France, Germany, Greece, Italy, Poland, and Spain. The sample comprised two local branches of an international aid organization, four Search and Rescue organizations, one medical emergency organization, and one civil protection organization. From these eight CSOs, an initial set of 32 case studies was collected using two tailored data collection templates. Main empirical findings informed the four conceptualizations of crisis management community and established an elements-based approach to community resilience, pointing to the hypothesis that integrating diverse volunteers with professional teams leads to greater operational effectiveness and community resilience than treating the community as only formal actors in silos (Figure 1).

Step 2: The role of civil society in crisis management (September 2020–December 2022)

Research questions:

- What is the current role of civil society in crisis management (NGOs, volunteers, communities, and individuals)?
- Who are the key civil society actors and networks in crisis management?
- What are the main needs, challenges, and best practices within civil society in crisis management?

Theoretical sampling: Based on findings from Step 1, theoretical sampling was employed to discover categories and their properties (Glaser & Strauss, 1967). The sample consisted of 53 entities, mostly European, to ensure consistency in institutional and policy contexts. This included various types of emergency organizations to capture the full spectrum of crisis management practices while enabling cross-national comparison within each type as detailed below:

- **Formal CSOs (40 organizations):** 28 first responder/emergency organizations and 12 international organizations from European countries, plus Australia and Israel. Within these organizations, individuals at different management levels, as well as fully trained volunteers formally part of the structure, were selected to capture diverse perspectives on the role of CSOs in crisis management, including views on informal civil society actors.

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

<table>
<tr><th>STAGES OF GROUNDED THEORY APPROACH</th><th>CODES (EXAMPLES)</th><th>CONCEPTS / THEMES (EXAMPLES)</th><th>HYPOTHESIS AS PREMISES FOR FURTHER ANALYSIS</th><th>LITERATURE</th></tr>
<tr><td colspan="5">Step 1: Community resilience in crisis management

Relevant research questions:
1. How is community understood in crisis management?
2. How is community resilience best defined and approached in crisis management?</td></tr>
<tr><td colspan="5">Collect data 1: Jun 2020-Jun 2021.

Methods:
1. Literature review
2. Case study collection – participants provided answers based on two templates; one on general overviews (8 responses) and the other documenting specific crisis situations (24 responses)

Initial purposive sampling: end-users (members of the consortium) – 8 CSOs (2 local branches of international aid organizations; 4 Search & Rescue (SAR) organizations; 1 medical emergency organization; 1 civil protection organization)

Main empirical findings:

1. How is community understood in crisis management?

In crisis management, community can be understood in four ways. First, as a community of practice and interest (professionals and volunteers sharing belonging across boundaries, active in preparedness and response), illustrated by formal CSOs participating in case studies. Second, as an interaction-based community (networks connected through formal and informal interactions, active in response and recovery), evident in case studies where volunteers used WhatsApp and Facebook to coordinate refugee relief. Third, as a place-based community (individuals within a disaster-affected geographical location), reflected in case studies of earthquakes, forest fires, and floods where local volunteers provided knowledge of unmapped terrain. Fourth, as an interactional field (people who choose to act collectively on a common issue). Case study findings also revealed that challenges such as lack of joint training and coordination difficulties can undermine these community formations, while combining resources and leveraging local knowledge enhance their effectiveness.

2. How is community resilience best defined and approached in crisis management?

Community resilience is best defined as an adaptive, transformative, and learning-based process rather than a rigid bounce-back to a previous state. Given the inherent vagueness of the term and the absence of a widely accepted definition, a more productive approach was to focus on specific, well-understood elements that contribute to resilience, such as communication, information-sharing, coordination, training, use of appropriate resources and technologies, interoperability of systems, experienced leadership, multi-stakeholder collaboration, and the integration of volunteers' local knowledge and commitment, rather than attempting to study community resilience as a single, unified concept. This elements-based approach was further supported by case study findings, which consistently identified challenges in these same areas (e.g., communication failures, lack of joint training, coordination difficulties, non-standardized procedures) and successful practices that address them (e.g., combining resources, joint simulation exercises, leveraging local knowledge), confirming that resilience is best built through concrete capacities and attributes rather than through abstract definitions alone.</td></tr>
<tr><td>Data analysis 1</td><td>Communication
Community
Coordination
Feedback and debriefing
Networks

Local knowledge
Volunteers</td><td>Crisis management community as network - combining resources and feedback/information sharing for community resilience

Recognition of local knowledge and volunteers' contribution to community resilience</td><td>H1: In crisis management, the integration of volunteers with professional search and rescue teams - recognizing that community consists of a variety of actors including formal CSOs, informal volunteers, spontaneous volunteers, and local residents can lead to greater operational effectiveness and community resilience than operations where community is treated as consisting only of formal actors operating in silos.</td><td>Community in crisis management – Räsänen et al. (2020), Paveglio et al. (2017)

Community resilience – Cutter et al. (2016), Kruse et al. (2017)</td></tr>
<tr><td colspan="5">Step 2: The role of civil society in crisis management

Research questions:
1. What is the current role of civil society in crisis management (NGOs, volunteers, communities and individuals)?
2. Who are the key civil society actors and networks in crisis management?
3. What are the main needs, challenges, and best practices within civil society in crisis management?</td></tr>
</table>

Fig. 1. Modified grounded theory.

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

STAGES OF GROUNDED THEORY APPROACH	CODES (EXAMPLES)	CONCEPTS / THEMES (EXAMPLES)	HYPOTHESIS AS PREMISES FOR FURTHER ANALYSIS	LITERATURE
Theoretical sampling: Formal CSOs (40 organizations: 28 first responder/emergency organizations, 12 international organizations), Informal and Emergent CSOs (11 groups), Grassroots Community CSOs (2 groups)				
Collect data 2: Sep 2020-Dec 2022. Methods: interviews and focus groups, combined with case studies from Step 1 Main empirical findings: 1. What is the current role of civil society in crisis management (NGOs, volunteers, communities and individuals)? Currently, formal civil society organizations (CSOs) are recognized and incorporated into crisis management, whereas informal actors, including spontaneous and self-organized volunteers, remain largely under-recognized and insufficiently embedded within official frameworks, with this limited recognition coming from both the state and formal CSOs themselves, despite the fact that informal actors frequently self-organize and contribute de facto to disaster response. This recognition gap reveals underlying power dynamics in which informal actors are positioned as peripheral despite their demonstrated contributions. 2. Who are the key civil society actors and networks in crisis management? The key civil society actors and networks in crisis management include formal civil society organizations (CSOs) such as established NGOs and trained volunteer groups, alongside informal actors comprising spontaneous volunteers who appear at disaster sites without prior connection to response organizations, self-organized spontaneous volunteers who demonstrate high capacity for group coordination, and local communities whose members often act as first responders, with informal networks frequently forming ad hoc via social media platforms like WhatsApp and Facebook to coordinate relief efforts. These informal arrangements enable adaptive and flexible resource allocation, yet remain outside formal response structures. 3. What are the main needs, challenges, and best practices within civil society in crisis management? Key challenges include the absence of inter-organizational feedback platforms, volunteer turnover, and coordination difficulties, with limited recognition of informal actors by both the state and formal CSOs exacerbating many of these issues. Best practices include combining professional and volunteer resources, joint simulation training, leveraging local knowledge, maintaining latent networks, and providing institutional support to self-organized groups. Notably, these best practices demonstrate that when informal actors receive even minimal facilitation, they contribute to more adaptive and situationally responsive crisis management, with improved resource allocation and reduced operational chaos.				
Data analysis 2	Informal Volunteers Volunteers Advantages and Challenges Expertise from various field among volunteers Recognition Self-organized volunteers/groups Ways of support Empowerment of local communities Challenges with local communities Vulnerable communities Ways of support Policies and protocols Training and knowledge sharing Organization type Formal-informal	Changing landscape of volunteering Volunteers and self-organized groups as civil society actors Coordination issues Lack of recognition by formal actors Importance of technology in self-organizing Preparedness and Empowerment (raising awareness, grassroots, training) Communication with local communities (bi and unilateral communication, local knowledge) Top-down emergency plans Command-and-control approaches vs. network approaches	H2: Crisis management that integrates diverse formal and informal actors, accommodating self-organized volunteers who temporarily associate and coordinate, making power dynamics and inter-actor relationships explicit, and enabling flexible resource allocation, is more adaptive and effective than command-and-control approaches that rely exclusively on formal actors. Such arrangements are characteristic of polycentric systems built on co-production, where the quality of relationships among actors serves as a key relational building block. H3: Self-organized spontaneous volunteers and local communities, despite demonstrating high capacity for coordination, face systematic non-recognition and lack of institutional support, which leads to underutilization of their potential. However, even minimal institutional facilitation (e.g., premises, content moderation, consultative	Community in crisis management – Räsänen et al. (2020), Paveglio et al. 2017) Management approaches to crisis management - Boin, A. and 't Hart, P. (2010), Dynes (1994) Quarantelli (1985) Role of volunteers, including spontaneous volunteers – Simsa 2017, Meyer & Simsa (2018) International and CSO networks – Chaulia (2011), Holohan (2006)

Fig. 1. Continued

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

STAGES OF GROUNDED THEORY APPROACH	CODES (EXAMPLES)	CONCEPTS / THEMES (EXAMPLES)	HYPOTHESIS AS PREMISES FOR FURTHER ANALYSIS	LITERATURE
			validation) improves their operational efficiency and reduces chaos during disaster response, as it establishes positive relationships with formal actors based on recognition rather than hierarchy.	
Step 3: Crisis management as a polycentric system Research questions: 1. What are the attitudes among formal civil society actors in crisis management towards informal actors? 2. What is the substance of relationships binding various actors in a crisis management polycentric system?				
Method: Re-reading transcripts and focus codes further: 2025. Main empirical findings: 1. What are the attitudes among formal civil society actors in crisis management towards informal actors? Attitudes among formal actors towards informal actors fall into two orientations. Command-and-control orientated actors dismiss informal actors as an additional risk, believing that spontaneous volunteers lack training and must be incorporated into hierarchical chains of command to be effective. Polycentric-orientated actors, by contrast, recognize and legitimize informal actors without attempting to control them, providing institutional support (e.g., premises, feedback) while allowing emergent groups to retain their flexibility and self-organization. However, even polycentric-orientated actors often treat local communities as recipients of expert knowledge rather than knowledge producers, suggesting that openness to emergent groups does not always extend to place-based communities. 2. What is the substance of relationships binding various actors in a crisis management polycentric system? The substance of relationships in a polycentric crisis management system can be understood through four elements. Trust can be built through recognition and shared values rather than hierarchy. Flexibility and openness can involve distinguishing specialized tasks from transferable ones where outside expertise is equally valid. Equality can emerge through co-production, treating informal actors as knowledge producers. Temporality can be leveraged as a resource, enabling adaptive cooperation without the burdens of permanent relationships.			

Fig. 1. Continued

- **Informal and Emergent CSOs (11 groups):** Transient groups were accessed through personal contacts during active crises: in Poland, groups responding to the refugee crises on the Polish-Belarusian border and following the war in Ukraine; in Greece, groups operating after the 2015 refugee crisis. Fewer emergent groups were included due to limited access (they are temporary, dissolve quickly, and are fully occupied when active), their supplementary role in crisis management, and because perspectives on their role were also gathered from formal CSOs, a crucial source when investigating formal–informal relationships.
- **Grassroots Community CSOs (two groups):** Established, but not formally registered, place-based community groups from Poland and Greece.

A total of 45 semi-structured interviews were conducted using two distinct schedules: one for professional CSOs (end-users and NGOs) and another for community-based CSOs. Three focus groups were held, each engaging a specific actor type from multiple countries: professional responder CSOs (Austria, France, Germany, and Greece); medical CSOs (Greece, Italy, and Spain); and emergent CSOs (Greece and Poland). These three types were selected because they interact frequently in crisis settings yet operate under different assumptions about authority, expertize, and decision-making—professional responders under hierarchical, protocol-driven frameworks; medical CSOs with specialized, triage-oriented approaches; and emergent CSOs exemplifying ad hoc, value-driven coordination. Main empirical findings revealed that formal CSOs are recognized and incorporated into crisis management, whereas informal actors remain under-recognized by both the state and formal CSOs despite contributing de facto. Key challenges included the absence of feedback platforms, volunteer turnover, and coordination difficulties, while best practices included combining resources, joint training, and providing institutional support to self-organized groups.

Step 3: Crisis management as a polycentric system

Research questions:

- What are the attitudes among formal civil society actors in crisis management toward informal actors?
- What is the substance of relationships binding various actors in a polycentric crisis management system?

Methods: No new data were collected in Step 3. The objective for data collection in Step 2 was wider in scope, but it included questions that specifically asked about cooperation, roles, and relationships. This provided ample material for further focused analysis. In 2025, transcripts were re-read and codes were refined further through constant comparison.

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

STAGES OF GROUNDED THEORY APPROACH	CODES (EXAMPLES)	CONCEPTS / THEMES (EXAMPLES)	HYPOTHESIS AS PREMISES FOR FURTHER ANALYSIS	LITERATURE
Data analysis 3	Contestation Barriers Oversight Standards Assuming incompetence Competition	Command-and-control approach – contestation of informal	SUBSTANTIVE THEORY: In crisis management, polycentric systems can outperform command-and-control architectures not because they are inherently more efficient, but because they enable trust to be built through recognition rather than hierarchy, flexibility to be operationalized through the distinction between specialized and transferrable tasks, equality to emerge through co-production rather than expert-recipient dichotomies, and temporality to be leveraged as a resource for adaptive, short-term cooperation without the relational burdens of permanent arrangements.	Polycentricity – Ostrom (1990), Koinova (2022), Jordan et al. (2015), Storr et al. (2017) Governance – Bacchi (2012), Scott (2020) Governance and crisis management – Capano & Toth (2025) Spontaneous volunteers – Simsa (2017), Paciarotti (2018) Relationships and social capital – Putnam (1995), Granovetter (1973), Schobert et al. (2023)
	Recognition Forms of support Platforms Operationalization Norms and values Humanitarianism	Polycentric systems: Institutional support - recognition and legitimization		
	Insider or local knowledge Like-minded people Connecting to local networks Formal-informal connections Ways of connecting Ad hoc organizing	Polycentric systems: Mapping expertise		
	Benefits of networks Cooperation Collegiality Initiative Formation	System architecture - command-and-control vs. polycentricity		
	Directly implying T: Collegiality Cooperation Norms and values **Enabling or reflecting T:** Like-minded people Benefits of networks Recognition Humanitarianism	Trust (T)		
	Directly implying FO: Ad hoc organizing Initiative Collegiality Ways of connecting Support for informal **Enabling or reflecting FO:** Formal-informal connections Connecting to local networks	Flexibility and openness (FO)		
	Directly implying E: Collegiality Norms and values Humanitarianism **Enabling or reflecting E:** Recognition Formal-informal connections Benefits of networks	Equality (E)		
	Ad hoc organizing Benefit of networks Cooperation	Temporal aspects of relationships		

Fig. 1. Continued

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

Main empirical findings identified two distinct attitudes among formal actors: command-and-control-oriented actors often dismiss informal actors as an additional risk requiring hierarchical incorporation, while polycentric-oriented actors tend to recognize and legitimize informal actors without attempting to control them. The substance of relationships in polycentric systems was understood through four elements: trust (built through recognition rather than hierarchy), flexibility and openness (distinguishing specialized from transferable tasks), equality (emerging through co-production), and temporality (leveraged as a resource for adaptive, short-term cooperation).

Data analysis

Across all steps, data were analyzed using a modified grounded theory approach (Charmaz, 2006; Creswell, 2013; Glaser & Strauss, 1967). Bryman (2012) notes that most applications of grounded theory come down to following "core processes, such as coding, memos, and the very idea of allowing theoretical ideas to emerge out of one's data" (p. 575), resulting in "grounded concepts rather than grounded theory" (p. 573), which was the case here.

The process begins with formulating initial research questions, which drive initial sampling, based on theoretical and purposive rather than statistical criteria to "discover categories and their properties" (Glaser & Strauss, 1967, p. 62). Data collection is followed by coding and memo-writing, with codes developing into concepts and categories/themes through constant comparison. Once saturated, categories provide the basis for formulating hypotheses (Bryman, 2012). The iterative process can be repeated until categories are refined enough for a substantive theory grounded in the data. In the current study, this process was accompanied by an ongoing iterative literature review, as suspending awareness of existing conceptualizations is neither feasible nor desirable (Bulmer, 1979).

Within this framework, thematic analysis (Braun & Clarke, 2006) served as a detailed elaboration of theme development, complementing constant comparison. The analytical process can be compared with principles outlined by Gioia et al. (2013) for rigorous qualitative data structuring, particularly the distinction between first-order concepts (informant-centric codes), second-order themes (researcher-centric categories), and aggregate dimensions (overarching theoretical constructs). This ensured transparent progression from raw data to abstract categories while remaining grounded in participants' accounts.

The analytical approach was applied iteratively across the three steps (Figure 1):

Step 1 analysis

The literature review informed initial coding and category development. Data from 32 case studies were coded, generating first-order codes including Communication, Community, Coordination, Feedback and debriefing, Networks, Local knowledge, and Volunteers. These were organized into second-order themes ("crisis management community as a network," "recognition of local knowledge and volunteers' contribution"). This produced H1 concerning the integration of diverse actors for operational effectiveness.

Step 2 analysis

Data from 45 semi-structured interviews and three focus groups were coded. First-order codes included Informal volunteers, Advantages and challenges, Expertize from various fields, Recognition, Self-organized volunteers, Ways of support, Policies and protocols, Training, and Organization type. These were organized into second-order themes (e.g., "changing landscape of volunteering," "lack of recognition by formal actors," "command-and-control versus network approaches") and the aggregate dimension contrasting command-and-control with polycentric arrangements. This produced H2 (on polycentric systems) and H3 (on institutional facilitation for self-organized volunteers).

Step 3 analysis

No new data were collected. Interviews and focus group data from Step 2 were re-read, and codes were refined further through constant comparison. First-order codes were organized under two main architectures: command-and-control approach (contestation, barriers, oversight, assuming incompetence, and competition) and polycentric systems (institutional support and mapping expertize). Relational codes were grouped into second-order themes—Trust, Flexibility and openness, Equality, and Temporal aspects of relationships—which together formed the aggregate dimension of polycentric system building blocks. This produced the substantive theory presented in the Findings.

Ethical considerations

This research adhered to strict ethical standards. For all data collection involving human subjects (interviews and focus groups), verbal or written informed consent was obtained. To protect participants, all individual names have been anonymized.

Findings

Command-and-control approach: Contestation as a relational mechanism

In discussions on cooperation, many participants from formal CSOs only referred to other formal actors. When asked specifically about informal and emergent groups, half of our research participants from established CSOs dismissed their efforts, reporting either that they never witnessed such organizations or that they were unimportant or problematic. As one first responder stated:

> I consider them as additional risk since they are not trained. Sooner or later, they will be in need of active assistance, and this will make the professionals and the trained staff including the volunteers from the unit, it will make their job heavier. (First Responder Organization, Bulgaria, Interview 18).

This quote reflects the perception that if volunteers do not undergo specialized training and formally belong to an emergency organization, they lack useful expertize during a crisis. In this view, self-organized spontaneous volunteers must become part of a command-and-control system to be effective. This is echoed by this participant, a member of an international organization based in Italy:

> It was purely self-management, then we stepped in, we are a militarized organization, so we are very structured, and then we put the stakes back on the activities to be done in that situation. (International Organization, Italy, Interview 28).

A more accepting approach to self-managed groups was demonstrated by an international aid organization in Austria. As one participant explained:

> We have seen the possibility to involve those persons in the chain of command … a system on how to manage what we call

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

> spontaneous volunteers. (International Aid Organization, Austria, Interview 6).

The program built capacity and allowed for the incorporation of spontaneous volunteers into the command-and-control chain more long-term by turning their efforts into a regular and recognized resource in crisis management. The relationship, however, was still hierarchical, with the CSO holding a certain level of authority over volunteers who, in this scenario, could not self-organize, but were instead organized by experts.

Polycentric approach: Cooperation through recognition and legitimization

Institutional support—Recognition and legitimization

A different approach by CSOs and state actors recognized and legitimized emergent groups for what they were, informal, creative, and ephemeral, without attempting to incorporate them into hierarchical command-and-control. Data showed how such institutional support facilitated the scope and effectiveness of emergent groups. This was discussed by a volunteer involved in organizing a large citizen support point for refugees at the Polish-Belarusian border in 2021. What started as a small community initiative turned into a complex logistical operation. The local Volunteer Fire Service (VFS) made its premises available at the mayor's request. Volunteers improvised a kitchen and basic sleeping area for people who crossed the border and got lost in the forests. A call for donations exceeded expectations. When coordination became a challenge, volunteers created shared online rosters where they signed up for shifts, assigned a coordinator, and broke down tasks into collecting, sorting, and distributing donations, while communicating online which goods were still needed. The VFS assisted with their expertize. The emergent organization was one of many ad hoc, self-organized centers with limited yet autonomous authority, operating without central command but still part of a larger system that provided support from the local CSO (VFS), the local community, and the local government. This was appreciated by the organization members as expressed by this respondent:

> Two days ago an organization was created in a town nearby … they told me that it's really hard because their local government is against it … So when I talked to them, they were a bit scared, they were saying, "You know, your situation is different because your mayor and local government support you so you can operate" … But you know, we are not asking the mayor what we are supposed to do … The Fire Service or us, we do it on our own and he just accepts it. (Emergent Organization, Poland, Interview 44).

The support of the local government and the VFS legitimized the self-managed group's activity as an actor in a polycentric system and facilitated its effective and rapid crisis response while maintaining its creativity and flexibility. Conversely, the group in the town nearby was not recognized as part of the polycentric system and could not function in such an informal way. For them, the choice was to either cease to exist or to formalize. The lack of support from the other actors in the system forced the group to create a formal organization to attempt to gain legitimization by creating a bureaucratic structure which changed the character of the group and slowed their response.

Locality, pre-existing ties to other actors, and trust (or lack of it) were the features of the above scenarios. However, institutional support of a formal CSO could be offered where no pre-existing ties exist if such an organization is open and recognizes the potential and capacity of a self-organized group. This was discussed by this firefighter who was a first responder during an earthquake with tsunami:

> It was in Indonesia … It was local students who self-mobilized to come and help the victims of a disaster. They did not have any structures, they got together as university students and set up their organization to provide mainly food aid. (…) They had a lot of contacts, so they managed quite well, they were well perceived by the population; they did not lack much, only someone to guide them a little in their organization, but the rest was very good. (First Responder Organization, France, Interview 11).

When discussing relationships, emergent groups referred to both other CSOs and public authorities, referring implicitly to a polycentric system. Most of the members of self-managed groups who participated in the research emphasized the importance of having positive relationships with formal CSOs as well as with the state agencies. This medical doctor from the Medics on the Border group operating during the refugee crisis on the Polish-Belarusian border discussed how the absence of state recognition could hinder the activities of a self-managed group and replace the anticipated relationship of cooperation with that of competition:

> NGOs have been great…and very collegial (…) But they [state first responders] sometimes look at us as something weird … I mean, I counted on being able to take care of things in a brotherly … collegial way but not everything could be done in a collegial way unfortunately … (Emergent Organization, Poland, Interview 43).

A strained relationship with the formal state actors, despite support and recognition received from formal CSOs in the system, added another constraint to the already difficult situation of providing medical assistance with limited resources during the crisis.

Mapping expertize: Locating knowledge outside formal centers

Along with institutional support and recognition, a key feature of polycentric systems is the ability to locate expertize outside formal crisis management networks. In Warsaw, an established refugee CSO (abbreviated below as ERC) turned to an art gallery for support in the first days of the Russian invasion of Ukraine in February 2022. With the advice and support of this professional organization, the gallery was able to reorganize within days to respond to a need to receive refugees from the war who were not Ukrainian and who fell outside the formal system of support for people fleeing Ukraine.

The gallery space was turned into temporary accommodation. Once a week, a bus arrived from Ukraine carrying around 40 people who would stay for 3–4 days. A member of the ERC was always present to support the gallery staff and volunteers. Volunteers were recruited from personal networks of the two organizations. The gallery team and first volunteers were trained by ERC, after which trained volunteers trained new recruits. A sense of belonging founded on shared values facilitated trust.

Despite its temporality and flexibility, the work quickly became structured. As one organizer explained:

> I realized I'm getting overwhelmed … So we sat down with another team member and we came up with a list of tasks that we grouped under teams, and then we created spreadsheets where people could start entering their names … So this

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

> structuring was our way of dealing with stress. (Emergent Organization, Poland, Interview 45).

Ideas were run through the ERC for feedback. The work was organized into four 6-hour reception shifts, three 8-hour remote shifts, and shorter shifts for specific tasks. Shifts were administered in a shared online calendar where volunteers subscribed themselves. More details were available on Slack, organized into sections. The process was democratic and co-produced, and volunteers decided on their availability and entered details in an online tool.

The gallery's coordination expertize proved transferable to crisis management. Recognizing that expertize can be located in unexpected places required openness, flexibility, and trust from the ERC. The other features of polycentric crisis management, institutional support, recognition, and legitimization, were also present.

The operation lasted about 3 months. By May 2022, the crisis subsided, but even if it had not, the gallery would have needed to focus on its annual exhibition. The arrangement was temporary by design, supportive of a larger refugee aid system. The emergent organization was one of many local centers where crisis response was local, co-produced, and independent of central command-and-control authority.

Formal CSOs and local communities: From co-optation toward co-production

Another informal actor in crisis management is local communities. Almost all respondents from established CSOs actively reached out to communities, often through gatekeepers who connected them to various groups. However, despite participants' awareness of resources residing in local communities, their expertize in local conditions and needs, data demonstrated no methodologies for tapping into local knowledge. Engagement was wide but mainly unilateral and top-down, taking the form of training, courses, campaigns, and events as discussed by this participant:

> We make sure to raise awareness and inform local communities about the dangers … and we create rescue plans. We mainly inform the local communities through meetings with community/municipal councils, and speeches. (First Responder Organization, Greece, Interview 3).

The above quote resonates with other responses from members of established CSOs and demonstrates the perception of local communities as recipients of expert knowledge rather than knowledge producers. This mirrors the command-and-control approach discussed in the previous section, further elaborated by this participant:

> Often the communities need a professional approach, even if we are an NGO and our actions are based on humanitarianism and volunteering, we absolutely want to have a professional approach. (First Responder Organization, France, Interview 11).

Two organizations discussed a deeper and more needs-based engagement with communities. A German international aid CSO developed a tool to support newly formed groups:

> We support such groups by helping them to establish a formal NGO so that they can fit in their local civil society organisation system, and connect them to the relevant authorities. (International Aid Organization, Germany, Interview 13).

This effort formalizes grassroots initiatives and incorporates them into command-and-control. While beneficial in some ways, it risks changing local groups' character and hindering their creativity by imposing bureaucratic constraints (Scott, 1998). However, it does create space for communities to contribute and build more long-lasting, potentially balanced relationships over time. Another relationship-building approach was discussed by this participant from a British CSO:

> It's something that we try and encourage the team to learn to do … we are also trying to build a human terrain picture. Who's who? Who can we get to talk to? Who are natural leaders? (First Respondent Organization, UK, Interview 36).

This methodology maps local communities and identifies diverse groups. Like others, this respondent emphasized identifying gatekeepers to access and build relationships with communities. However, what sets this participant apart is that he indirectly recognized communities as knowledge producers, not just recipients, by acknowledging their leadership qualities. This approach could be developed further to create a genuine knowledge-exchange process where local communities become recognized actors in a polycentric system.

Discussion

This discussion addresses the two research questions in turn. First, the contrasting attitudes of formal actors toward informal actors (RQ1) are examined, distinguishing between command-and-control and polycentric approaches. Second, to explore the substance of relationships binding actors in a polycentric system (RQ2), the concept of social capital is applied. As Schobert et al. (2023) demonstrate in the crisis management context, social capital is understood not as a static asset but as a situational resource whose availability, accessibility, and activatability determine whether relationships function effectively during crises. The four elements that emerged from the analysis, namely trust, flexibility and openness, equality, and temporality, operationalize this concept, revealing what binds polycentric systems together in practice.

System architecture: Command-and-control versus polycentricity

This research identified two main approaches among CSOs and other actors in crisis response: command-and-control and what I refer to as polycentric. As presented in the Findings first section, the command-and-control approach focuses on the "hardware" of crisis management, namely rules, procedures, formal hierarchical structures, and technological solutions (Boin & 't Hart, 2010). Only formal actors are recognized while emergent organizations are overlooked, perceived as unimportant, or a nuisance. This aligns with Scott's (1998) critique of high-modernist policies, which privilege expert knowledge while systematically disregarding local and informal knowledge. The dominance of command-and-control has been critiqued as unsuitable for dynamic crises (Capano & Toth, 2025; Drabek & McIntyre, 2003; Whittaker et al., 2015). While expected among state first responders (Neal & Phillips, 1995; Quarantelli, 1987), this approach can be surprising among CSOs whose declared focus is humanitarianism (Chaulia, 2011). Half of our respondents from established CSOs were either unaware of self-organized groups or criticized them for not operating according to command-and-control principles, often basing opinions on anecdotes rather than experience.

Although expressed by a significant number of respondents, this view was not shared by all of our participants from formal CSOs.

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

The other half of the respondents demonstrated a degree of openness towards informal organizations and arrangements, that is, a polycentric approach. Such an attitude was acknowledged and appreciated by the participants from emergent organizations who participated in the research. Combining views of formal and informal actors allowed for identifying the main features of a polycentric governance system in emergency contexts, with a focus on relationships binding various actors.

Polycentric systems combine diffusion and order, meaning decision-making is distributed across multiple centers rather than concentrated in a single authority (Koinova et al., 2021). This does not imply the absence of hierarchy; rather, polycentric governance implies coordinated cooperation among many public and private actors (Capano & Toth, 2025). While Jordan et al. (2015) caution that evidence for polycentric effectiveness remains limited, they acknowledge its potential for experimentation and tailoring to local contexts. Paciarotti et al. (2018) offer a concrete example of a local Caritas that successfully managed spontaneous volunteers by improvising based on need with the mayor's legitimization, which contrasted sharply with official responders who insisted on traditional, thoroughly trained volunteering. The examples discussed in the Findings illustrate a dynamic where decision-making was diffused and independent from central command-and-control, with arrangements that were local, co-produced by inclusive networks of formal and informal actors, and uniquely tailored to each crisis (Ostrom, 1990).

Relationships: Social capital as the binding glue of a polycentric system

Identifying the architecture of each arrangement is important. However, to understand how order is established in a diffused system, the content of relationships must be analyzed. Data illustrated that each local center, referring to the emergent groups and informal arrangements described in the Findings, such as the citizen support point at the Polish-Belarusian border, the Warsaw art gallery, or the student group in Indonesia, had limited yet autonomous authority. Success depended not on central authority but on self-organization (Koinova, 2022). Actors created temporary rules appropriate to local conditions (Ostrom, 1990). Where successful, relationships were based on trust, flexibility, openness, and equality—the four elements that emerged from focused coding in Step 3. These four elements operationalize the concept of social capital in the context of polycentric crisis response. Following Schobert et al. (2023), social capital is not a static asset but a situational resource whose availability, accessibility, and especially activatability determine whether it enhances crisis response. Each of the four elements below illustrates a different dimension of how social capital becomes, or fails to become, activated within polycentric relationships between formal and informal actors.

Trust

Establishing trust, that is partners knowing what to expect and assuming goodwill (Holohan, 2005), can be challenging in ad hoc arrangements. For formal actors, trust requires confidence in both good intentions and expertize of emergent organizations. For informal actors, trust requires confidence that established organizations will provide support rather than control. As Schobert et al. (2023) note, social capital is not automatically an asset as it can be inaccessible, disrupted, or diminished by social norms. Where trust and recognition are absent, relationships of competition and contestation emerge, as discussed in the second section of the Findings.

Trust can develop from pre-existing ties or on the spot. In the Polish-Belarusian border case, trust was based on previous cooperation. The mayor and VFS trusted volunteers' intentions and expertize, recognizing their right to create their own rules (Ostrom, 1990). The emergent organization trusted that there would be no attempt to control them, retaining independence and enabling a speedy response. This illustrates what Schobert et al. (2023) term activatable social capital, the most potent determinant of whether social capital actually increases resilience. By contrast, as shown in the Findings, a nearby emergent group was contested by formal actors and forced to formalize, significantly slowing their response.

In the case of the Warsaw gallery, there was no previous direct cooperation among partners, although previous ties existed. Trust in this case was based on the assumed shared overarching values among like-minded people who belonged to a loose network of friends and friends-of-friends. Cooperation was facilitated by the formal organizations' ability to bridge and to locate expertize in an unexpected place. They provided institutional support by sharing expertize, feedback, and advice, without trying to control the emergent organization (Simsa, 2017). In the Indonesian example, there were no previous ties between the formal CSO and the local organizations. Trust developed on the spot and was at a sufficient level to facilitate temporary cooperation, based on shared values and goals of humanitarianism and providing relief to victims of a disaster. The formal CSO was able to recognize the importance of spontaneous volunteers' ties to local communities and their ability to handle tasks of distributing food and clothing. Storr et al. (2017) similarly found that polycentric systems using dispersed knowledge can be better suited for local recovery, identifying two key advantages: "their ability to make use of local knowledge, and their flexibility" (p. 881).

The regular interactions between local communities and formal CSOs who provide training and institutional support are conducive to building trust. This trust could serve as a foundation for transforming the present limited and one-way communication into a richer and multilateral exchange where communities are recognized as knowledge producers and not just knowledge recipients and can contribute to the crisis management system in a meaningful way.

Flexibility and openness

Distinguishing among tasks of various levels of specialization within crisis management was a common feature among actors applying a polycentric approach. Acceptance that some of the skills required for managing a crisis are transferrable from different fields requires certain openness and flexibility on the part of formal actors in the system. There are some tasks that are highly specialized and require rigorous training such as SAR under dangerous conditions, SAR with canines or medical assistance. For safety reasons, such tasks are best handled by formal organizations since they require a high degree of institutionalization: established rules, protocols, and procedures. These kinds of tasks are often the responsibility of formal international organizations in emergency contexts (Chaulia, 2011). Other tasks, such as general coordination, provision of food, clothing or shelter, involve transferable expertize and can be handled by informal and emergent organizations, as this research and other research demonstrated (Łapniewska, 2022; Paciarotti et al., 2018). The ability to distinguish between these two categories of tasks, and that only one of them must be formalized, facilitates the development of trust, recognition, and cooperation between established and emergent organizations. The same

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

applies to cooperation with local communities. This flexibility reflects Scott's (1998) concern with who gets to define the problem and whose knowledge counts, a question that cuts to the heart of how formal actors recognize or dismiss informal actors.

Equality

One of the main features of polycentric relationships between emergent and formal organizations discussed in this research is that they are relatively power-balanced, in contrast to the command-and-control dynamics described in the Findings. The emergent organizations are treated as equals who might need some institutional support due to their temporary nature and limited resources, but who nevertheless possess expertize and are knowledge producers and not just knowledge recipients. This marks a shift from the command-and-control system toward a polycentric one and is in line with Ostrom's (1990) principle of self-organized groups' ability to create their own rules.

In most formal CSO-local community relationships, however, an asymmetrical expert–recipient dichotomy remains (Li, 2005), with expert knowledge prevailing and local knowledge dismissed (Scott, 1998). In crisis management, formal actors typically position themselves as experts while community voices are sidelined. Evolving toward equality would require trust, openness, flexibility, and overcoming the command-and-control constraints that perpetuate this imbalance.

Temporal aspects of relationships

Relations between formal and emergent organizations are usually short-lived, presenting both challenges and opportunities. Such relations can be labor-intensive and perceived as having no future. On the other hand, temporary relations do not require the maintenance work of long-term relationships. Short-term cooperation still allows combining resources and building overall effectiveness, as this research demonstrated. Temporality can also limit competition and contestation (Koinova, 2022). As Storr et al. (2017) note, "the ability to organize and solve collective action problems is supported by strong social networks, shared values and past experiences with disaster" (p. 895), but these need not always be long-standing. As the Findings suggest, relational burdens can be avoided if formal partners focus on mapping resources among informal actors, establishing trust, and providing temporary institutional support. By contrast, recognizing local communities in a polycentric system requires long-term investment in building ties and reshaping existing relationships into more equal ones.

Conclusion

This study set out to examine attitudes among formal CSOs toward informal actors and the substance of relationships binding actors in polycentric crisis management systems. The findings reveal a clear divide: half of formal CSO respondents dismissed informal actors as untrained risks requiring hierarchical control, while the other half demonstrated openness, recognition, and institutional support without attempting to absorb emergent groups. Turning to the second research question on the substance of polycentric relationships, the analysis identified social capital as the binding glue of a polycentric system. Where polycentric attitudes prevailed, relationships were characterized by trust built through recognition, flexibility in distinguishing specialized from transferable tasks, equality through co-production, and temporality leveraged as a resource for adaptive cooperation.

The contributions of this article are empirical and theoretical. The study applies a polycentric lens to crisis management, an approach that moves beyond cataloguing actors to analyzing the relationships and power dynamics that bind them and provides qualitative evidence of how polycentric governance operates in practice. Drawing on Schobert et al. (2023), it conceptualizes social capital as the binding glue of polycentric systems, specifying trust, flexibility, equality, and temporality as the relational building blocks that underpin functioning polycentric governance. It also introduces concepts from critical governance studies (Scott, 1998) to understand how recognition, expertize, and power dynamics shape inclusion or marginalization in crisis response.

These findings contribute to operationalizing polycentricity for crisis management by specifying how trust, flexibility, equality, and temporality are enacted in relational practice. Nevertheless, the study has limitations. The findings are drawn primarily from European contexts, and while qualitative research does not aim at statistical generalizability, future research in non-European settings would enrich understanding of how polycentric dynamics vary cross-culturally. The study's qualitative design was appropriate for capturing actors' perceptions, sense-making, and negotiation of power dynamics, which are essential for understanding relational processes. However, future quantitative or mixed-methods studies could usefully complement these findings by focusing on performance metrics, measuring crisis outcomes, and examining other quantifiable aspects of the issues raised here.

Data availability statement. Data will be made available on request.

Acknowledgements. The author kindly acknowledges the contributions of the consortium partners who participated in the data collection for this study, namely NTUA, PSCE, SAN, SYNYO, UCSC, UGL, and VUB. Special thanks go to Dr. Waleed Serhan who coordinated the data collection with me and co-authored the initial Project Deliverable reporting on the research results.

Funding statement. This project falls under the European Commission Horizon 2020 framework with Grant agreement ID: 882897.

Competing interests. The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

References

Ansell, C., Sørensen, E., & Torfing, J. (2021). The COVID-19 pandemic as a game changer for public administration and leadership? The need for robust governance responses to turbulent problems. *Public Management Review*, *23*(7), 949–960. https://doi.org/10.1080/14719037.2020.1820272

Boin, A., & 't Hart, P. (2010). Organising for effective emergency management: Lessons from research. *Australian Journal of Public Administration*, *69*(4), 357–371. https://doi.org/10.1111/j.1467-8500.2010.00694.x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bryman, A. (2012). *Social research methods*. Oxford University Press.

Bulmer, M. (1979). Concepts in the analysis of qualitative data. *The Sociological Review*, *27*(4), 651–677. https://doi.org/10.1111/j.1467-954X.1979.tb00354.x

Capano, G., & Toth, F. (2025). Controversial issues in crisis management. Bridging public policy and crisis management to better understand and address crises. *Risk, Hazards & Crisis in Public Policy*, *16*(3), e12304. https://doi.org/10.1002/rhc3.12304

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.

Chaulia, S. (2011). *International organizations and civil protection. Power, ideas and humanitarian aid in conflict zones*. I.B.Tauris. https://doi.org/10.5040/9780755692705

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press

Creswell, J. W. (2013). *Qualitative inquiry & research design. Choosing among five approaches*. Sage.

Drabek, T. E., & McIntyre, D. A. (2003). Emergent phenomena and the sociology of disaster: Lessons, trends and opportunities from the research literature. *Disaster Prevention and Management: An International Journal*, *12*(2), 97–112. https://doi.org/10.1108/09653560310474214

Dynes, R. R. (1970). *Organized behaviour in disaster*. Heath Lexington Books.

Dynes, R. R. (1994). Community emergency planning: False assumptions and inappropriate analogies. *International Journal of Mass Emergencies & Disasters*, *12*(2), 141–158. https://doi.org/10.1177/028072709401200201

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Routledge.

Holohan, A. (2005). *Networks of democracy: Lessons from Kosovo for Afghanistan, Iraq, and beyond*. Stanford University Press. https://doi.org/10.1515/9781503625341

Jordan, A. J., Huitema, D., Hildén, M., Van Asselt, H., Rayner, T. J., Schoenefeld, J. J., Tosun, J., Forster, J., & Boasson, E. L. (2015). Emergence of polycentric climate governance and its future prospects. *Nature Climate Change*, *5*(11), 977–982. https://doi.org/10.1038/nclimate2725

Koinova, M. (2022). Polycentric governance of transit migration: A relational perspective from the Balkans and the Middle East. *Review of International Studies.*, *48*(3), 461–483. https://doi.org/10.1017/S0260210521000693

Koinova, M., Deloffre, M. Z., Gadinger, F., Mencutek, Z. S., Scholte, J. A., & Steffek, J. (2021). It's ordered chaos: What really makes polycentrism work. *International Studies Review.*, *23*(4), 1988–2018. https://doi.org/10.1093/isr/viab030

Łapniewska, Z. (2022). Solidarity and mutual aid: Women organizing the 'visible hand" urban commons. *Gender, Work and Organization*, *29*(5), 1405–1427. https://doi.org/10.1111/gwao.12833

Li, T. M. (2005). Beyond "The State" and failed schemes. *American Anthropologist*, *107*(3), 383–394. https://doi.org/10.1525/aa.2005.107.3.383

Meyer, M., & Simsa, R. (2018). Organizing the unexpected: How civil society organizations dealt with the refugee crisis. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, *29*(6), 1159–1175. https://doi.org/10.1007/s11266-018-00050-y

Neal, D., & Phillips, B. (1995). Effective emergency management: Reconsidering the bureaucratic approach. *Disasters*, *19*(4), 327–337. https://doi.org/10.1111/j.1467-7717.1995.tb00353.x

Nowell, B., Steelman, T., Velez, A.-L. K., & Yang, Z. (2018). The structure of effective governance of disaster response networks: Insights from the field. *The American Review of Public Administration*, *48*(7), 699–715. https://doi.org/10.1177/0275074017724225

Ostrom, E. (1990). *Governing the commons*. Cambridge University Press. https://doi.org/10.1017/CBO9780511807763

Paciarotti, C., Cesaroni, A., & Bevilacqua, M. (2018). The management of spontaneous volunteers: A successful model from a flood emergency in Italy. *International Journal of Disaster Risk Reduction*, *31*, 260–274. https://doi.org/10.1016/j.ijdrr.2018.05.013

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, *6*(1), 65–78. https://doi.org/10.1353/jod.1995.0002

Quarantelli, E. L. (1986). *Research findings on organizational behavior in disasters and their applicability in developing countries*. Preliminary Paper #107. Disaster Research Center University of Delaware.

Quarantelli, E. L. (1987). Disaster studies: An analysis of the social historical factors affecting the development of research in the area. *International Journal of Mass Emergencies and Disasters*, *5*(3), 285–310. https://doi.org/10.1177/028072708700500306

Sanderson, D., Heffernan, T., DeSisto, M., & Shearing, C. (2025). Community-centred disaster recovery: A call to change the narrative. *Disasters*, *49*(1), e12655. https://doi.org/10.1111/disa.12655

Schobert, M., Orru, K., Gabel, F., Nero, K., Windsheimer, P., Klaos, M., & Nævestad, T. O. (2023). The three A's of social capital in crises: Challenges with the availability, accessibility and activatability of social support. *International Journal of Disaster Risk Reduction*, *92*, 103704. https://doi.org/10.1016/j.ijdrr.2023.103704

Scott, J. C. (1998). *Seeing like a state: How certain schemes to improve the human condition have failed*. Yale University Press.

Simsa, R. (2017). Leaving emergency management in the refugee crisis to civil society? The case of Austria. *Journal of Applied Security Research*, *12*(1), 78–95. https://doi.org/10.1080/19361610.2017.1228026

Simsa, R., Rameder, P., Aghamanoukjan, A., & Totter, M. (2019). Spontaneous volunteering in social crises: Self-organization and coordination. *Nonprofit and Voluntary Sector Quarterly*, *48*(2_suppl), 103S–122S. https://doi.org/10.1177/0899764018785472

Stallings, R. A., & Quarantelli, E. L. (1985). Emergent citizen groups and emergency management. *Public Administration Review*, *45*, 93–100. https://doi.org/10.2307/3135003

Storr, V. H., Grube, L. E., & Haeffele-Balch, S. (2017). Polycentric orders and post-disaster recovery: A case study of one orthodox Jewish community following Hurricane Sandy. *Journal of Institutional Economics*, *13*(4), 875–897. https://doi.org/10.1017/S1744137417000054

Weber, M. (1978). *Economy and society: An outline of interpretive sociology*. University of California Press.

Whittaker, J., McLennan, B., & Handmer, J. (2015). A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. *International Journal of Disaster Risk Reduction*, *13*, 358–368. https://doi.org/10.1016/j.ijdrr.2015.07.010

https://doi.org/10.1017/S0957876526000859 Published online by Cambridge University Press