In *Research Handbook on Humanitarian Supply Chain Management*. Edward Elgar Publishing.

Humanitarian Response and the Coordination Dilemma: Navigating Efficacy, Earnings, and Ethics

Mahyar Eftekhar*

June 1, 2025

Abstract

In this chapter, I discuss the drivers and obstacles of coordination in humanitarian response based on three interconnected dimensions—*efficacy*, *earning*, and *ethics*. Next, I provide a high-level synthesis of game-theoretic models commonly used to analyze coordination mechanisms, highlighting their insights and limitations in humanitarian contexts. My key critiques include insufficient attention to response agencies' different—and sometimes opposing—*value systems*, the assumption of unidimensional payoffs, and abstract modeling. While coordination is often assumed to be universally beneficial, this chapter cautions against this view and advocates for more realistic, adaptive approaches that reflect the complex realities of field operations. This includes more empirically grounded, context-sensitive mechanisms and strategic pre-disaster agreements that enable trust and operational alignment.[1]

Keywords: earning; efficacy; ethics; game theory applications; humanitarian coordination; value systems.

"This is a defining moment for the humanitarian community [...] we face a profound crisis of legitimacy, morale, and funding."

– Thomas Fletcher, *Head of UN OCHA*

March 10, 2025

1 Introduction

Coordination is the alignment of actions among parties, whether or not their interests conflict, to achieve mutual gains. At a high-level, theories of firm coordination fall into two categories: those centered on *coordination decisions*, which analyze the incentives guiding firms' choices and the conditions under which coordination is beneficial; and those related to *mechanisms*, which seek to design effective structures for fostering collaboration. Designing these mechanisms requires a deep understanding of the former i.e., the incentives, constraints, and evolving power dynamics at play. In practice, however, coordination decisions and mechanisms are tightly interlinked, demanding a holistic analysis that accounts for internal

*W. P. Carey School of Business, Arizona State University. (eftekhar@asu.edu), ORCID https://orcid.org/0000-0002-6310-9025

[1]**Acknowledgment:** I am grateful to Boyang Mu for his insightful comments on Section 3, as well as to Luyi Gui and Vincent Slaugh for their valuable feedback. This text was partially proofread by AI.

factors (e.g., stakeholder utility, organizational policies, and strategic goals) as well as external forces (e.g., uncertainty and the operational context). Put simply, without understanding the parties' *value systems* (Schelling, 2005), any attempt at mechanism design fails. A value system is the set of preferences an individual relies on to evaluate options and make decisions. This means players act *strategically*; coordination is thus a strategic choice, where each party's optimal move depends on their expectations of others—who are simultaneously forming expectations about them. Strategic choice assumes that players behave *rationally* i.e., aiming to maximize payoffs according to a clear and internally consistent set of values. Yet, translating rationality into analytical models faces the boundaries of strategic analysis and shapes conclusions with limited applicability, or even meaningfulness (Schelling, 2005). Further, rationality is not a binary condition, or a single axis from which one slides into irrationality, but a *composite of attributes* (Schelling, 2005; Axelrod, 2006); Departures from it may reflect different value systems, cognitive errors, or even communication failures.

In supply chain management (SCM), coordination could be a purposeful relationship among entities that involves the joint use of resources, information, risks, rewards, and responsibilities over a defined period, aiming to achieve better performance compared to isolated efforts. Designing coordination mechanisms is especially challenging in humanitarian settings, as diverse actors follow different values, and often assume multiple roles or shift positions, not only across different disasters, but even within various phases of a single response. These dynamics are further impacted by the operational context—development or disaster relief, operating in conflict zones or stable regions—as well as by local infrastructure and the degree of domestic government involvement. Most studies assume that coordination is primarily driven by performance goals and inevitably improves humanitarian outcomes. However, this assumption ignores the sector's complex realities. Not only are humanitarian organizations (HOs) concerned with efficiency, but also with their missions, reputational considerations, and the need to secure funding—factors that often outweigh purely performance-based incentives. Ignoring these financial structures and ethical priorities results in mechanism designs that may seem effective in theory but lack practical relevance.

Focusing on emergency relief operations, this chapter discusses the incentives that foster, and the barriers that hinder, coordination in response operations; I propose that coordination dynamics can be understood through three lenses: *efficacy*, *earning*, and *ethics*. Next, given the prevalence of game-theoretic models in mechanism design, I give a high-level overview of their relevance, strengths, and limitations in humanitarian contexts. I argue that the common assumption of a *unidimensional* strategy space—where all actors are assumed to share the same logic of incentives—is often insufficient for analyzing coordination between HOs and other actors like militaries and private firms. To stay focused, I avoid technical detail and do not revisit topics already well addressed in the literature.

2 Efficacy, Earnings, and Ethics: Understanding Value Systems

Efficacy refers to the ability to achieve desired outcomes, including both effectiveness (e.g., demand coverage and quick delivery) and efficiency (i.e., resource use). In humanitarian response, both aspects are

vital, particularly under urgent, resource-constrained conditions. Yet, the uncertainty (i.e., the difficulty of allocating probabilities to future events) inherent in humanitarian crises hampers efficacy. Addressing this uncertainty often requires greater resources that may be beyond the reach of individual organizations, thereby creating a strong incentive to coordinate; coordination allows agencies to pool resources and enhance demand coverage. This is especially true for smaller HOs. Conversely, large international humanitarian organizations (IHOs) may struggle to estimate demands in unfamiliar contexts, making cooperation with local actors essential. Accordingly, coordination emerges from complementary strengths—logistical scale and funding from international actors, and contextual access and agility from local partners. As Pfeffer & Salancik (1978) argue, coordination is a key strategy for managing external dependencies—particularly in turbulent resource environments—making *resource dependence theory* a useful framework for understanding how financial and operational pressures impact coordination decisions in humanitarian response.

On the other hand, coordination is not without costs. Large coalitions slow decision-making that complicates response operations when time is pivotal. After rapid-onset disasters—when numerous decisions must be made quickly—HOs often hesitate to allocate capacity to meetings or coordination forums and prioritize direct service delivery. A survey of 395 respondents across 43 countries from the Food Security Cluster found that while HOs recognize the value of coordination, they are concerned about its bureaucratic burdens and the delays it can introduce into response operations (Steets et al., 2014).

Moreover, coordination is a self-interested choice: actors engage when the expected benefits, whether immediate or long-term, are greater than the costs. As resource-dependent entities reliant on grants and donations, HOs make strategic and operational choices that align with donor expectations and funding incentives. Thus, coordination decisions are also influenced by their earning logic. Eftekhar et al. (2017) show that HOs competing for public attention, especially those dependent on individual donations, tend to avoid coordination because media exposure drives contributions. In contrast, HOs supported by institutional donors who prioritize measurable outcomes are more likely to collaborate. Coordination, therefore, is not just about efficacy; it is also shaped by HOs' earning.

Coordination among HOs. Limited coordination among HOs is often attributed to challenges such as demand and supply uncertainty, the urgency of disaster settings, and fragmented funding structures—factors that broadly align with the labels of earning and efficacy. (Other cited factors, such as seniority and gender dynamics in meeting participation, language, and organizational structures, do not constitute primary drivers of coordination, but they may *facilitate*—or hinder—productive interactions.) The tension between efficacy and earning is central to Parsa et al. (2025), who combine interviews with a game-theoretic model to examine how urgency, funding sources, and demand coverage shape coordination choices. Their analysis contrasts *pooled* (joint) and *partitioned* (segmented) coordination structures, emphasizing that while IHOs supply logistical capacity and resources, local actors provide contextual expertise and access. Parsa et al.'s (2025) model underscores the dual role of media exposure—sometimes amplifying organizational visibility, other times diluting it—and finds that excessive coordination under bureaucratic conditions can delay response and diminish overall system performance. A key insight is that

partitioned coordination often outperforms pooled models by reducing administrative bottlenecks, increasing local involvement, and better aligning with beneficiaries' needs. In high-pressure cases, smaller HOs may rationally choose to operate independently rather than engage in onerous coordination systems—a finding echoed in real-world trends, including the 2016 Grand Bargain, which promotes locally led responses and greater funding for national actors. Recognizing these limitations, Parsa et al. (2025) challenge the conventional wisdom that "more coordination is always better," and advocate for decentralized, pre-defined structures that balance speed and demand coverage.

Effective collaboration between international and local HOs can enhance legitimacy and response operations. However, power imbalance–often favoring IHOs given their financial leverage, global recognition, and institutional authority–is typically cited as a challenge (Al Adem et al., 2018). Yet, expecting a flat power distribution may be unrealistic. In fact, power asymmetry is common in most forms of coordination. Game-theoretic models, widely used to design coordination mechanisms, are essentially frameworks for quantifying power (Brandenburger & Nalebuff, 1997). Power can stem from access to resources (funding, expertise, information), institutional status (e.g., a UN agency vs. a small NGO), or centrality in the response network e.g., through government ties. In reality, a player's influence is defined by their marginal contribution: the difference they make to the collective payoff by participating versus abstaining.

Business–HO coordination. Despite its practical significance, business–HO coordination remains largely underexplored in academic literature. These coordinations are typically dyadic, involving one HO and one company that limits scalability, and opportunities for mutual learning (Nurmala et al., 2018). Moreover, most collaborations focus on the response phase, with minimum engagement in preparedness or recovery, despite strong evidence that early investment improves long-term outcomes.

In this context, the earning–efficacy tension takes a different form: while efficacy is the immediate concern in crisis response, earning is a longer-term strategic objective for businesses. Companies offer valuable resources—including warehousing, transportation, and technologies—that can help address capacity gaps in humanitarian operations. However, their participation is often motivated by corporate social responsibility, reputational benefits, and market expansion. These motives generate both synergies and friction. On one hand, businesses can substantially enhance operational efficacy. On the other, contrasting institutional logics—profit-oriented efficiency versus donor-driven accountability—can strain coordination. While firms tend to operate through hierarchical, result-oriented structures, HOs are limited by bureaucratic systems formed by rules and transparency demands, often slowing decision-making. This misalignment can undermine both performance and legitimacy. Further, HOs may evaluate companies' engagement with skepticism, especially when businesses appear more interested in visibility than sustained commitment; short-term coordination can improve efficacy, but partnerships with businesses of questionable reputation risk damaging an HO's credibility, eroding donors' trust, and threatening its long-term earnings.

Examining 134 HO–business partnerships in disaster response, Nurmala et al. (2018) advocate a shift from transactional relationships to strategic, skill-based coordination that strengthen capabilities in areas such as preparedness, knowledge transfer, and infrastructure development. Institutional platforms are

beginning to support this shift. The Private Sector Humanitarian Alliance and the Logistics Emergency Team, which partners with the World Food Programme, exemplify efforts to formalize and scale such corporate engagement.

Government–HO coordination. Local governments play a central role in disaster response, aligning humanitarian aid with official plans and community needs. They can reduce duplication, set priorities, and streamline logistics through customs facilitation and centralized resource allocation. For HOs, working with local authorities fosters legitimacy and community trust. However, coordination often faces barriers such as bureaucratic delays, corruption, politicized aid, and weak institutional capacity. In fragile states, HOs may operate in a governance vacuum, risking aid diversion to corrupt networks or armed groups, as seen in Rwanda and Eastern Zaire during the 1990s. Even in less extreme cases, poor governance hampers response—as in Nepal, where delays in staffing the Reconstruction Authority fragmented post-earthquake aid (Chan, 2025). In such contexts, HOs may bypass government systems to speed up relief, but this can undermine coordination and provoke political backlash, resulting in fragmented delivery, duplication, or neglected areas.

A deeper source of friction in humanitarian coordination arises from the multi-mandate nature of many organizations. These HOs often blend emergency relief with long-term development goals—spanning healthcare, education, legal aid, human rights advocacy, and poverty reduction. This dual focus introduces systemic ethical tensions, particularly in maintaining neutrality, balancing political sensitivities, and ensuring mission integrity. While humanitarian relief targets immediate suffering, development work often promotes systemic changes aligned with liberal democratic values—sometimes clashing with local ideologies, especially in regions under authoritarian regimes. As a result, multi-mandate agencies may be viewed as instruments of Western influence, undermining their neutrality and local trust. Principles like neutrality, impartiality, and independence are frequently compromised under these pressures. Many HOs lack structured policies to manage such dilemmas, and it's difficult to assess whether decisions made on the spot align with organizational values. These tensions reflect the long-standing "relief–development" divide that continues to shape—and complicate—humanitarian practice (Maxwell & Buchanan-Smith, 1994).

Institutional theory suggests that an organization's success is made by its conformity to norms and expectations within its environment (Meyer & Rowan, 1977). Note that HOs differ in their sensitivity to humanitarian principles. During the 1983–1985 Ethiopian famine, Médecins Sans Frontières (MSF) withdrew from operations and publicly condemned the government's manipulation of aid, prioritizing independence and neutrality over continued access. In contrast, other HOs—more dependent on funding from government–aligned donors—adopted a more cautious stance, distancing themselves from MSF to safeguard their brand and funding streams. While MSF maintains strict adherence to humanitarian principles, others may compromise these ideals to continue delivering life-saving aid, even at the expense of perceived neutrality (Polman, 2011).

Military–HO coordination. Coordination becomes especially complex during mixed emergencies, where natural disasters, armed conflict, or health crises overlap in the same region. These scenarios generate competing priorities, strain response capacities, and draw in a wider range of actors, including the

military. There is a clear lack of OM research centered on coordination between HOs and military forces. Structural differences—decentralized HO networks versus hierarchical military command—often cause friction, but deeper challenges arise from the military's political and strategic motives. Governments may use humanitarian missions to advance foreign policy, stabilize fragile states, or improve military image. While escorts can provide security, they also raise ethical concerns, risking the neutrality and independence of humanitarian actors.

Unlike intergovernmental agencies, NGOs are self-mandated and rely on public trust, which is often fragile in unstable settings (Slim & Bradley, 2013). Neutrality is especially difficult to uphold in multi-mandate operations blending relief and development—particularly in politically sensitive contexts. When HOs engage in activities such as governance support or education, particularly in politically sensitive or conflict-affected regions, they may be perceived as aligned with external agendas. This perception can undermine their credibility, decay community trust, and restrict access, especially when local groups view such efforts as politically motivated; being seen as a political actor can compromise both operational efficacy and staff safety. Polman (2011) documents how aid was co-opted by Hutu militias after the Rwandan genocide to sustain violence. She argues that neutrality, in some contexts, leads to complicity—unintentionally prolonging conflict or legitimizing oppressive regimes. Two ethical risks stand out: *contagion*, the perception of political alignment, and *complicity*, the danger of enabling violations of humanitarian principles (Metcalfe et al., 2012).

3 Game Theory and Strategic Coordination

This section outlines several frameworks that, in my view, offer useful lenses for understanding coordination dynamics in humanitarian contexts. I should note that I am by no means a game theorist, but rather an intrigued reader. (Given the word limit and the very limited use of game theory in this context, only a few examples are included.)

Principal-agent model. The principal-agent model describes a relationship in which the *principal* delegates tasks to the *agent*, who performs those tasks on their behalf. A key tension here is *information asymmetry*—when the agent knows more than the principal. This asymmetry increases the chance that the agent will exploit their informational advantage to pursue their own goals rather than the principal's, thereby deviating from the agreed contract. This framework is suitable for analyzing issues of trust and accountability. Explicit applications of this model in humanitarian logistics are surprisingly rare, despite its relevance. For example, donors often lack reliable insight into field conditions, while implementing partners have local knowledge but may pursue different priorities. Opposing goals add to the complexity: donors may emphasize speed and accountability, whereas field organizations focus on community engagement and long-term development. *Mixed signals* also play a role: when donors emphasize impact but, in practice, reward visibility, agents behave in ways that impair supply chain efficacy.

Economists typically distinguish two types of principal–agent problems: *moral hazard*, arising from hidden actions, and *adverse selection*, arising from hidden information (Mas-Colell et al., 1995). Moral

hazard occurs when agents behave opportunistically after a contract is signed. A famous example is how insurance dulls caution; drivers may park on the street rather than pay for secure parking. Adverse selection stems from asymmetries before contracting. A classic example is the used car market, where sellers have better information about vehicle quality than buyers. Thus, moral hazard involves hidden behavior *after* contracting; adverse selection involves hidden characteristics *before*. This distinction is especially relevant when IHOs enter new countries and seek local partners. Vetting is often minimal—limited to verifying whether a local NGO can provide basic accounting statements—with little visibility into whether the NGO is truly capable of fulfilling the proposed tasks or simultaneously applying to multiple IHOs.

Cooperative and non-cooperative games. One foundational approach in game theory is the analysis of non-cooperative static games, where players make decisions simultaneously and are committed to them. These games assume players act independently and that no binding agreements are possible, and outcomes reflect self-interested decisions. The goal is to predict rational outcomes of strategic behavior, typically through equilibrium concepts e.g., the Nash equilibrium. Non-cooperative game theory thus explores what individuals can achieve under strategic interdependence, such as in contracts without enforcement mechanisms. In contrast, cooperative games examine what groups of players can achieve collectively, assuming binding agreements are possible and joint gains are shared among members. These models are particularly useful for analyzing how to design enforceable coordination agreements. In short, cooperative games are well-suited for evaluating value-sharing and enforceable agreements, whereas non-cooperative games are more appropriate for modeling individual decision-making in decentralized, incentive-driven environments. The latter is especially relevant in humanitarian contexts, where HOs operate without a central authority. For instance, the UN Cluster Approach can be effectively analyzed through a non-cooperative lens.

Toyasaki et al. (2017) use a non-cooperative game to model horizontal cooperation among HOs managing shared relief inventory within the UNHRD network. Since HOs often act independently and prioritize their own costs, the model reflects a setting with no binding authority or profit-sharing, where participation is voluntary and incentives matter. Without proper incentives, they show that partial participation can undermine system efficiency, and propose a premium mechanism to better align individual and collective goals. In contrast, Ergun et al. (2014) apply a cooperative game to analyze technology-enabled collaboration in post-disaster camp management, based on a case where handheld IT tools reduced fraud and improved supply distribution after the 2010 Haiti earthquake. Because HOs had to jointly decide on investing in shared tools, cooperation was essential. The cooperative framework helps design fair cost-sharing mechanisms that promote buy-in and maximize system-wide benefits.

A key concept, often overlooked in SCM studies, is *deterrence*—the strategic use of potential force not to compel action, but to persuade others to avoid certain behaviors in their own interest (Schelling, 2005). It applies not only to adversaries but also to allies when interests conflict. In humanitarian contexts, deterrence can manifest as reputational consequences for non-cooperative behavior. HOs that fail to adhere to agreed-upon coordination frameworks or ethical standards may face public criticism or reduced funding opportunities. For example, the UN's "naming and shaming" list highlights parties that violate children's

rights in conflict zones; some have signed corrective action plans in response, proving the deterrent effect. While research supports reputational deterrence as effective in some contexts (Hafner-Burton, 2008), it can backfire—provoking denial or repression—if perceived as unfair or politicized. Thus, reputational deterrence must be used carefully and alongside other strategies.

From an SCM perspective, cooperative games can be limiting because they don't capture the specific actions players take—often central in supply chain models. As Cachon & Netessine (2004) note, these games define a group of players and assign a value to each possible coalition using a characteristic function, representing the maximum value the group can jointly produce. However, the models abstract away from how that value is created or what actions are required. The focus is purely on value division, assuming all members pool resources voluntarily and no player holds special authority. Coalition values are assumed to be independent of one another—reasonable in political contexts like voting, but less so in markets, where outcomes rely on interdependent actions.

To address these limitations, Cachon & Netessine (2004) propose **Biform games**—a hybrid framework that blends cooperative and non-cooperative elements. In this model, value generation and value division are intertwined (Brandenburger & Stuart, 2007); strategic actions (such as forming alliances or making investments) taken in a non-cooperative stage (i.e., stage one) form the structure of the subsequent cooperative game, where the outcome value is divided. This structure explains both how value is generated and how it is shared, offering a more realistic model for contexts like supply chains, where interdependent actions precede value allocation.

In humanitarian contexts, a Biform game could model how international and local HOs decide whether to jointly invest in a regional pre-positioning hub before a predicted climate event. Each actor independently evaluates risk, funding capacity, and reputational benefit (non-cooperative stage). If enough organizations commit, the hub becomes operational, and the cooperative game determines how space, access, and cost savings are allocated based on their earlier commitments and projected needs.

A strategy specifies what action to take in every possible situation—and because each situation is shaped by prior interactions, a strategy may call for coordination in some situations and defection in others (Axelrod, 2006). Given the dynamic nature of humanitarian response, it is important to use models that better reflect real-world conditions. For instance, relief operations often unfold in two stages: an initial phase marked by urgency and uncertainty, followed by a more stable phase with reduced volatility. Cachon & Netessine (2004) distinguish between **repeated games** (time-independent) and **dynamic games** (time-dependent). In repeated games, the same game is played in each period, linked only by memory. Dynamic games, by contrast, allow current payoffs to depend on past actions—capturing intertemporal effects like inventory or backlog. While repeated games are less common in SCM due to their limited realism, one could argue they may be quite relevant to humanitarian settings, where each disaster resembles a new game, yet decisions are shaped by prior experience and persistent constraints.

A less commonly applied but promising approach is **differential game** theory, which merges optimal control theory with game theory to model dynamic strategic interactions over time. While optimal control focuses on intertemporal decision-making for a single agent—such as adjusting prices—differential

games extend this to multi-agent settings by incorporating strategic behavior and equilibrium concepts like Nash and Stackelberg equilibria. A central feature of differential games is the information structure that is, whether agents base their strategies on time, current state, or history. Unlike optimal control, where full foresight makes information structure less critical, equilibrium outcomes in differential games can shift significantly depending on what agents know and when (de Zeeuw, 2024). These games typically adopt one of three structures: open-loop (strategies depend only on time), closed-loop without memory (dependent on time and current state), and closed-loop with memory (also consider past states). Open-loop games are simplest, where each player optimizes based on fixed assumptions about others. Under symmetry—where agents share objectives and constraints—these models become more tractable. Yet, as discussed earlier, such assumptions rarely hold in humanitarian contexts, where asymmetry and uncertainty dominate (Dockner et al., 2000).

An application of this model in humanitarian contexts could be the dynamic deployment of mobile health clinics in conflict zones: HOs must continuously decide where to allocate limited medical units as populations move, conflict fronts shift, and health needs evolve. Each organization's deployment affects not only their own impact but also system-wide coverage. In this setting, state variables could include population health levels, access conditions, and regional security; control variables are each HO's clinic locations, relocation speed, and service intensity; and the objective is to maximize coverage or minimize unmet demands over time. This problem can be modeled as a differential game, where strategies depend on real-time data (closed-loop), forecasts (open-loop), or historical deployment patterns (closed-loop with memory). One may consider reputation, which influences how actors anticipate each other's moves. For example, information about an HO's past responsiveness, reliability, or ethical behavior can significantly shape others' strategies—especially in high-uncertainty, low-trust environments. Because no central planner governs all actors, and responses evolve over time under uncertainty, differential games offer a rich tool for analyzing such coordination dilemmas.

4 Limitations and Real-World Complexity

Game theory provides a powerful framework for analyzing strategic interactions in which the choices of multiple agents jointly determine each participant's outcome. Its value in understanding complex economic relationships is well established. However, in applying these models to humanitarian settings, we must proceed with realistic expectations.

Design failures due to misaligned payoff assumptions. Game theory helps quantify power—whether derived from resources, status, or unique contributions. Yet in humanitarian contexts, contribution is dynamic and highly context-dependent, making *static* notions of power insufficient for designing sustainable coordination mechanisms. Adding to this challenge, many game-theoretic models assume a unidimensional strategy space, where all actors respond to a shared logic of incentives and payoffs (Cachon & Netessine, 2004; Axelrod, 2006). This rarely holds in humanitarian settings, where actors operate under diverse value systems. For example, ethical obligations may be central to HOs but irrelevant to military

actors focused on security. In such cases, uniform incentives fail. Practitioners often navigate multidimensional preference spaces. As Axelrod (2006) notes, payoffs in strategic interactions need not be symmetric or comparable; a local NGO may prioritize community trust and long-term presence, while an international agency may value rapid impact and donor visibility. Designing mechanisms that account for such divergent objectives—rather than forcing actors into a simplified payoff structure—is more effective.

Cognitive failures or perception gaps due to abstract modeling. A persistent challenge in SCM research is striking the right balance between granularity and abstraction. Game-theoretic models are often overly abstract: features that yield elegant mathematical solutions may bear little resemblance to how real participants interpret situations or form expectations. In practice, these expectations are shaped less by the game's formal structure and more by contextual, institutional, and moral cues that resonate differently with each actor (Schelling, 2005).

These observations highlight the need to ask: What model best reflects the situation at hand? How can we identify the underlying payoff structures and the enforcement mechanisms they imply? Addressing these questions requires more empirical and experimental research, areas still underdeveloped in our field.

5 Conclusion: Rethinking Coordination Strategies

In closing, I reflect on three open questions central to humanitarian coordination: Is coordination necessary? If so, should it be *formal*? And if yes, how can it be made sustainable?

Is coordination always necessary? Discussions of coordination often assume it is universally beneficial—but this assumption warrants further research. Are humanitarian managers acting irrationally when they choose not to coordinate? The classic Prisoner's Dilemma suggests otherwise, showing how rational self-interest can override collective benefit: each prisoner maximizes their own payoff, even though mutual cooperation would lead to a better joint outcome. Similar tensions exist in supply chains, where silos and budgetary divisions incentivize decisions that serve individual actors at the expense of system-wide efficacy. This misalignment typically stems not from resistance to integration, but from structural constraints such as organizational silos and financial structures. Furthermore, in the Prisoner's Dilemma, coordination improves individual outcomes but may not serve broader societal interests (Schelling, 2005).

In humanitarian contexts, the social impact of coordination is likewise uncertain. Eftekhar et al. (2017), for instance, show that intense media coverage can boost donations while discouraging HO coordination—highlighting a trade-off between visibility-driven fundraising and collaborative efficiency. Similarly, Gu et al. (2021) find that resource sharing (e.g., vehicles) may offer only marginal savings, often offset by added complexity. Parsa et al. (2025) caution that excessive coordination, especially under urgent conditions, can create bureaucratic slowdowns that harm beneficiaries.

Is *formal* coordination truly needed? Existing models often rely on *formal contracting*, contexts in which principals and agents can enter into binding, enforceable agreements (Rauchhaus, 2009). In humanitarian settings, however, such contracts are frequently infeasible due to limited capacity, urgency, or lack of shared authority. Instead, actors often depend on *self-enforcing agreements*, sustained not by

legal mechanisms but by reputational incentives, interdependence, or repeated interaction. A related and prevalent form of coordination—particularly among smaller, local HOs—is *tacit coordination* that involves aligning decisions and actions without formal communication or explicit agreements. Rooted in shared norms, contextual knowledge, and prior collaboration, it enables organizations to operate complementarily even without centralized tools such as formal coordination mechanisms. Both self-enforcing agreements and tacit coordination highlight the need for flexible, informal cooperation structures in settings where formal governance is weak or absent.

How to achieve sustainable coordination? Designing sustainable coordination requires a deeper understanding of contextual dynamics, value systems, and underlying power imbalances. A key insight is the importance of *strategic pre-disaster agreements*; harmonized plans that can be rapidly activated in times of crisis. This is crucial for two reasons. First, the chaotic nature of rapid-onset disasters makes it nearly impossible to build effective coordination networks on the spot. Second, relief operations are often temporary and staff turnover is high, meaning that HOs frequently work with unfamiliar partners from one crisis to the next. Axelrod (2006) offers a relevant principle: coordination becomes sustainable only when the future is sufficiently valuable relative to the present. Organizations invest in long-term coordination strategies only if they expect those relationships to yield future benefits. This is where pre-established structures—such as joint planning frameworks or predefined roles—become vital. They not only enhance preparedness but also create recurring, low-risk opportunities for interaction, fostering the kind of organizational trust that cannot be improvised in a crisis.

Trust at the institutional level is especially important when coordination must function under pressure. While personal relationships matter, enduring collaboration depends on organizational familiarity, shared norms, and operational alignment. Platforms like the UN's Logistics Cluster illustrate this well: formally endorsed by the IASC yet voluntary in participation, it offers a middle ground between structure and flexibility. Such mechanisms enable strategic—not reactive and ad hoc—coordination, making trust more likely to emerge and allowing for faster, more cohesive responses when they are most needed.

References

Al Adem, S., Childerhouse, P., Egbelakin, T., & Wang, B. (2018). International and local NGO supply chain collaboration: An investigation of the Syrian refugee crises in Jordan. *Journal of Humanitarian Logistics and Supply Chain Management*, *8*(3), 295–322.

Axelrod, R. (2006). *The evolution of cooperation*. Cambridge, MA: Basic Books.

Brandenburger, A., & Nalebuff, B. (1997). *Co-opetition*. Cambridge, MA: Currency Doubleday.

Brandenburger, A., & Stuart, H. (2007). Biform games. *Management Science*, *53*(4), 537–549.

Cachon, G. P., & Netessine, S. (2004). Game theory in supply chain analysis. In D. Simchi Levi, S. D. Wu, & M. Shen (Eds.), *Handbook of quantitative supply chain analysis: Modeling in the e-business era* (pp. 13–65). Springer's International Series.

Chan, S. (2025). *Nepal earthquake disaster relief: Lessons for funders.* (Accessed: April 15, 2025)

de Zeeuw, A. (2024). A crash course in differential games and applications. *Environmental and Resource Economics*, *87*, 1521–1544.

Dockner, E. J., Jorgensen, S., Van Long, N., & Sorger, G. (2000). *Differential games in economics and management science*. Cambridge, UK: Cambridge University Press.

Eftekhar, M., Li, H., Van Wassenhove, L. N., & Webster, S. (2017). The role of media exposure on coordination in the humanitarian setting. *Production and Operations Management*, *26*(5), 802–816.

Ergun, O., Gui, L., Heier Stamm, J. L., Keskinocak, P., & Swann, J. (2014). Improving humanitarian operations through technology-enabled collaboration. *Production and Operations Management*, *23*(6), 1002-1014.

Gu, L., Ryzhov, I. O., & Eftekhar, M. (2021). The facts on the ground: Evaluating humanitarian fleet management policies using simulation. *European Journal of Operational Research*(293), 681–702.

Hafner-Burton, E. M. (2008). Sticks and stones: Naming and shaming the human rights enforcement problem. *International Organization*, *62*(4), 689–716.

Mas-Colell, A., Dennis Whinston, M., & Green, J. R. (1995). *Microeconomic theory*. Oxford University Press.

Maxwell, S., & Buchanan-Smith, M. (1994). Linking relief and development. *IDS Bulletin*, *24*(4).

Metcalfe, V., Haysom, S., & Gordon, S. (2012). *Trends and challenges in humanitarian civil–military coordination.* Humanitarian Policy Group, Overseas Development Institute. (Humanitarian Policy Group Working Paper)

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340–363.

Nurmala, N., de Vries, J., & de Leeuw, S. (2018). Cross-sector humanitarian–business partnerships in managing humanitarian logistics: An empirical verification. *International Journal of Production Research*, *56*(21), 6842–6858.

Parsa, I., Eftekhar, M., Van Wassenhove, L. N., & Webster, S. (2025). Revisiting coordination in humanitarian operations: The role of coordination structures. *Working Paper*.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper and Row.

Polman, L. (2011). *War games: The story of aid and war in modern times* (2nd ed.). Penguin Books, London, UK.

Rauchhaus, R. W. (2009). Principal-agent problems in humanitarian intervention: Moral hazards, adverse selection, and the commitment dilemma. *International Studies Quarterly*, *53*, 871–884.

Schelling, T. C. (2005). *The strategy of conflict*. Cambridge, MA: Harvard University Press.

Slim, H., & Bradley, M. (2013). *Principled humanitarian action & ethical tensions in multi-mandate organizations in armed conflict* (Tech. Rep.). Interagency Standing Committee.

Steets, J., Darcy, J., Weingaertner, L., & Leguene, P. (2014). *Strategic evaluation: FAO/FWP joint evaluation of food security cluster coordination in humanitarian action.* Rome, FAO and WFP. (Access date: Sept 10, 2019)

Toyasaki, F., Arikan, E., Silbermayr, L., & Sigala, I. F. (2017). Disaster relief inventory management: Horizontal cooperation between humanitarian organizations. *Production and Operations Management*, *26*(6), 1221–1237.