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# Guest editorial: Humanitarian logistics in conflict zones and complex emergencies

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## Introduction

Countries across the globe continue to struggle with conflicts, economic turmoil and the devastating effects of climate change. Conflict and violence are currently on the rise, with many conflicts today waged between non-state actors such as political militias, criminal and international terrorist groups (UN, 2021). Unresolved regional tensions, a breakdown in the rule of law, absent or co-opted state institutions, illicit economic gain and the scarcity of resources exacerbated by climate change, have become dominant drivers of conflict. However, as noted by Altay *et al.* (2021), “By and large, however, the discipline has still ignored the area of conflicts, wars and complex emergencies”. The importance of humanitarian logistics in conflict zones and complex emergencies lies in its ability to navigate challenges such as safety concerns, coordination issues, quality assurance, innovation needs and efficient delivery of aid to vulnerable populations amidst crises.

Recently, Gaza has become the focus of the international community. According to the United Nations report (UN, 2024), 1.7 million people are internally displaced, or about 75% of Gaza’s 2.2 million residents. The displacement itself has led to challenges for the population and the humanitarian response in terms of shelter, food, sanitation and health. The latest Integrated Food Security Phase Classification (IPC, 2024) report, which looked at conditions in Gaza between 24 November and 7 December 2023, found that the entire population of Gaza is in “crisis or worse” levels of acute food insecurity.

But Gaza is not the only crisis in a conflict zone. The ongoing war in Ukraine, the collapse in Haiti and the crisis in Syria, South Sudan, Afghanistan, Yemen and Congo cause significant disruptions to humanitarian supply chains, putting those in need in the most vulnerable of positions.

The war in Ukraine has sparked the world’s fastest, largest displacement crisis in decades, according to the United Nations Refugee Agency (UNHCR, 2024). In Haiti, armed gangs are regularly taking control of distribution routes, causing shortages of basic goods and fuel. Rising prices make it increasingly difficult for people to afford to buy the food they can access. South Sudan is still recovering from a civil war that ended in 2018. While conflict has decreased, localised fighting remains widespread, this in one of the most fragile states in the world. Climate disasters including severe floods and droughts make it increasingly difficult for people

to access food and basic resources. The consequence of a decade of war has destroyed Syria’s health system and left the country on the brink of economic collapse. Conflict in neighbouring Lebanon has further increased food prices and poverty. Currently, 75% of Syrians are unable to meet their most basic needs and millions rely on humanitarian aid. In Yemen, the crisis is deepening as the conflict between armed groups and government forces remains unresolved. While a ceasefire reduced fighting for several months, it collapsed in October 2022 and failed to mitigate the economic and health consequences of conflict. Similarly in Congo, over 100 armed groups fight for control in eastern Congo fuelling a crisis that has lasted for decades. After nearly 10 years of dormancy, the M23 armed group launched a new offensive in 2022, forcing families to flee their homes and disrupting humanitarian aid. Major disease outbreaks – including measles, malaria and Ebola – continue to threaten an already weak healthcare system, putting many lives at risk. Since the Taliban took power after the multinational military withdrawal, Afghans remain in economic collapse. Ongoing efforts to engage the Taliban and improve the economy have fallen short.

Humanitarian logistics in conflict zones and complex emergencies involves the specialised organisation of delivering and warehousing supplies during crises. It encompasses planning, implementing and controlling the efficient flow of goods and materials to alleviate the suffering of vulnerable populations. Humanitarian logistics plays a crucial role in disaster relief by mitigating the impact of natural disasters, contributing to saving lives and serving as a repository of data for post-event learning. The process involves various actors, including donors, aid organizations, governments and beneficiaries, with fundamental flows of material, money and information. This field is essential for effective emergency response and requires coordination, forecasting and optimizing resources to ensure timely and efficient delivery of aid in challenging environments.

The importance of supply networks and their ability to support humanitarian aid operations in conflict zones and complex emergencies has come under increasing scrutiny. In doing so, it has been recognised that the key factors which determine the movement of goods through such networks operating in stable situations may not be the same as those which affect rapid response in circumstances that are unfavourable to stable operations (Tatham and Pettit, 2009). As observed by Kovacs *et al.* (2019), “There are, however, some hurdles to overcome to be able to collect empirical data, including: a lack of access to disaster areas and conflict zones; ethical questions about collecting data from vulnerable people; security considerations when handling data from conflict zones”.

The main challenges and risks of humanitarian logistics in conflict zones and complex emergencies include:

- *Safety and security*: Ensuring the safety of assets, beneficiaries and gaining access to affected areas amidst violence, instability and threats from armed groups or hostile authorities.
- *Coordination and communication*: Coordinating with multiple actors such as NGOs, UN agencies, government institutions and military forces, each with different mandates and priorities, to avoid confusion or duplication in relief efforts.
- *Quality and accountability*: Ensuring the quality and accountability of humanitarian assistance by meeting the needs of beneficiaries effectively and transparently adhering to ethical standards.
- *Innovative solutions*: Finding innovative and adaptive solutions to rapidly changing needs and contexts in

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conflict situations, embracing new technologies and approaches for efficient logistics operations.

- *Mitigating risks:* Overcoming challenges related to insecurity, complex bureaucratic procedures, specialised transport requirements and infrastructure damage to ensure timely and reliable delivery of relief supplies in conflict zones.

These challenges, addressed in a number of the special issue articles, highlight the critical importance of effective planning, coordination, innovation and risk mitigation strategies in humanitarian logistics operations in conflict zones and complex emergencies. In the commercial world, there is relative stability and certainty when planning a supply chain. In complex emergencies and conflict zones, the opposite is true, massive uncertainty. Rapid onset events, where, when, what intensity – underlining the “6W Problem” of “Who Wants What Where When and Why”. While we know that events will unquestionably occur, their timing and location is hugely difficult to predict with any significant degree of certainty. This leads to the emergence of unexpected demand for products and short lead times for supplies.

The regionalisation of conflict, which interlinks political, socio-economic and military issues across borders, has seen conflicts become longer, more protracted and less responsive to traditional forms of resolution (UN, 2021). A significant number of questions need to be addressed. What impact has a conflict zone or complex emergency have on humanitarian logistics? Most humanitarian aid is not, delivered in stable environments. Rapid response, damaged physical and communications infrastructure, lack of transport, poorly functioning government, the presence of many injured and traumatised individuals, looting and pilfering and the threat of violence all contribute to unstable conditions in which these networks must operate.

## Papers in the special issue

The first article “Humanitarian response by grassroots associations during a military conflict” by Renata Konrad, Solomiya Sorokotyaha and Daniel Walker examines the role of grassroots associations in providing humanitarian assistance during a military conflict and identifies important themes for effective operations. The paper adopts a case-study approach of three Ukrainian grassroots associations that began operating in the immediate days of the full-scale invasion of Ukraine. The paper’s main finding that grassroots associations have local contacts, and a contextual understanding of population needs and can respond more rapidly and effectively than large intergovernmental agencies provides insights into how humanitarian aid can be effectively delivered. Four critical themes regarding the operations of grassroots associations emerged: information management, inventory management, coordination and performance measurement. Grassroots humanitarian response operations during conflict are challenged by personal security risks, the unpredictability of unsolicited supplies, emerging volunteer roles, dynamic transportation routes and shifting demands.

The second article in the special issue “Rethinking research methods in protracted violent conflicts in Mozambique: fieldwork in complex emergencies” by Kudakwashe Chirambwi, seeks to suggest strategies of rectification and argues that successful research in a violent context is conditioned by the magnitude of instability and the flexibility of research strategies.

A creative blending of different research methods and techniques represents the most effective way of dealing with the constraints of doing research in conflict affected settings. During fieldwork in public emergencies, the researcher goes through a process of shifting through numerous research strategies and techniques. In conflict zones, the researcher always makes mistakes, and plans will not always work. While there are guidelines of doing research in peacetime settings, there are no such blueprints for war-torn environments. There are no firm rules, guidelines or regulations governing the actions of the researcher in conflict. As such, doing research in violent settings requires flexibility and creativity in research strategies that respond to rapid changes.

Oscar Moreno Rocha, Paula Pinto, Maria Consuegra, Juan Sebastian Cifuentes and Jorge Ulloa examine “Mobile ultrasound vascular assessment (MUVA) for remote and conflict areas” in paper three. The purpose of the paper was to facilitate access to vascular disease screening for low-income individuals living in remote and conflict areas based on the results of a pilot trial in Colombia and to increase the amount of diagnosis training of vascular surgery (VS) in civilians. Vascular injuries are critically important and common among civilians and military forces in regions with active armed conflicts. The paper outlines how the research team developed and implemented a flow model operating plan for screening vascular pathologies in low-income patient’s pro bono without proper access to vascular healthcare. In total, 140 patients from rural areas in Colombia were recruited to a controlled screening session where they underwent serial non-invasive ultrasound assessments conducted by health professionals of different training stages in VS. The interventions of the research team were able to determine, classify and redirect to therapeutic interventions the patients with positive findings in remote areas with a fast deployment methodology in VS.

Marie-Eve Rancourt, Rosemarie Gonzalez, Marilène Cherklesly and Teodor Crainic bring the article “Analysis of mobile clinic deployments in conflict zones”. This paper aims to deepen the understanding of the challenges and implications entailed by deploying mobile clinics in conflict zones to reach populations affected by violence and cutoff from health-care services. The Iraq war is the conflict examined. The findings demonstrate that armed conflicts directly impact the populations’ health and access to health care. Mobile clinic deployments are often used and recommended to provide health-care access to vulnerable populations cut off from health-care services. However, there is a dearth of peer-review literature documenting decision support tools for mobile clinic deployments.

The final paper in the special issue by Imoh Antai and Roland Hellberg, “Identifying total defence logistics concepts: a comparative study of the Swedish pandemic response” seeks to identify logistics concept areas within the total defence framework that allows for military and civil defence collaborations from a logistics operations perspective. A novel methodology of pattern-matching analysis is used to compare patterns found in the investigated case to those prescribed from literature and predicted to occur. Study seeks to identify logistics concepts within total defence from the literature and from the events describing the Swedish response to the Covid-19 pandemic. Pattern matching thus allows for the reconciliation of logistics concepts from literature to descriptions of how the response was handled, albeit under a total defence framework. The paper distinguishes between theoretical

and observational realms in terms of logistics applications. The theoretical realm identifies four main logistics concepts, the observational realm identifies five logistics conceptual themes. This goes on to show an incongruence between the military and civil parts of the total defence.

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## About the Guest Editors

**Graham Heaslip** is Professor of Logistics and Head of the School of Engineering at Atlantic Technological University (ATU), Ireland. Graham is a Visiting Professor at Hanken

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**Per Olof Skoglund** holds a PhD in business administration, at JIBS, as well as having a master’s degree in engineering from Chalmers and higher officer’s education from the Swedish Defence University. His research interest is development and organisation of the supply chains for the needs in the military and civilian defence. The focus is on how to build relations between private and public authorities during normal times to be used in crisis (natural disaster or political conflicts) or war. Of interest is if the private organisations can benefit from these relations during normal times.

**Ioanna Falagara Sigala** is a project researcher in the H2020 HERoS project at the HUMLOG Institute, Hanken School of Economics, in Helsinki, Finland. She holds a PhD from Vienna University of Economics and Business with the focus on the coordination and cross-sector collaboration in humanitarian supply chains. Her research interests lie primarily in the areas of humanitarian supply chains, public-private partnerships, the outsourcing of logistics and the pre-positioning of relief items.