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Challenges in Delivering Humanitarian Aid during War on Gaza

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Abstract

This study examines the critical challenges hindering emergency supply delivery to Gaza during humanitarian crises, with particular focus on the 2023-2025 conflict. Through qualitative methods including stakeholder interviews and action research, we identify key logistical, political and coordination barriers affecting aid distribution. Findings reveal systemic issues including border closures, rampant looting, exorbitant transport costs, and Israeli restrictions rejecting shipments.

The research highlight show destroyed infrastructure, and inadequate warehousing compound distribution challenges. Despite UNRWA's preparedness, the scale of displacement overwhelmed existing systems. The study contributes to humanitarian logistics literature by documenting Gaza's unique supply chain resilience mechanisms while emphasizing the urgent need for improved coordination, secure corridors, and political solutions to facilitate aid delivery. Recommendations include establishing protected distribution networks and pre-positioning regional stockpiles to mitigate future crisis impacts.

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1. Introduction

Emergencies such as natural disasters, pandemics, and conflict situations demand the rapid and efficient delivery of supplies such as food, water, medical aid, and shelter materials. However, this process often faces numerous challenges that can delay or hinder the distribution of essential supplies, Migdad and Wafi (2025) ^[16]. These challenges may stem from various factors including logistical issues, political issues, infrastructure limitations, poor planning, security dimensions, regulatory hurdles, communication barriers and many other factors. This research seeks to understand these challenges through a qualitative research approach, offering a deeper insight into the problems faced by those involved in emergency supply delivery in the Gaza Strip (G.S.). Al-Muhannadi and Buheji (2024) ^[1].

Normally, the delivery and entry of emergency and commercial supplies and goods to G.S. came through the main commercial crossing point, Kerem Shalom (KS). During emergencies, other crossing points were used but with very limited functionality, such as Kissufim, Gate 96, Erez, a temporary maritime-floating pier and Rafah crossing (that was mainly for pedestrians before the war). Some supplies were delivered by aid (air-dropped but ineffective). Figure (1) below shows the entry points of goods to G.S. (Source: cited from CNN report, <https://edition.cnn.com/2024/11/18/middleeast/aid-trucks-looted-gaza-unrwa-intl-lam/index.html>).

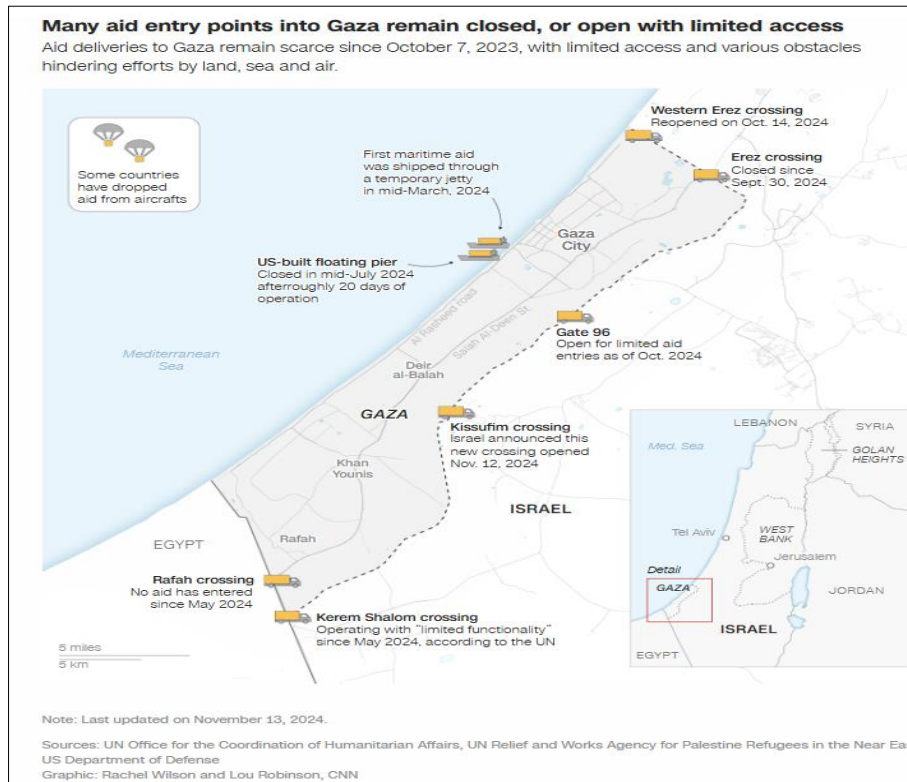


Fig 1: Entry points of goods to G.S.

Migdad *et al.* (2024a) ^[10] showed that despite the challenging living conditions of the Gazans people, the scarcity of supplies and the series of endless wars and emergency periods, people in Gaza are still showing strength and resilience even while living for more than one year in the tents. The displaced Gazans have managed, at least partially, to address issues such as electricity, internet access, and securing water and food—though often at significant physical and emotional cost and sometimes at the expense of their health and dignity, Migdad and Buheji (2024a) ^[11]. Everyone—men, women, children, the sick, and the wounded—has contributed to finding ways to maintain a minimal standard of living, in the hope of escaping death and in the faith of a brighter future, God willing. The scarcity and difficulties in delivering emergency supplies and the insufficient quantities to cover the needs of the vulnerable displaced people created another challenge. Hassoun *et al.* (2025) ^[6], Buheji and Migdad (2025) ^[6].

2. Problem Statement

Palestine, specifically the Gaza Strip, is one of the most volatile places in the world. It experiences dynamic challenges and political instability that affect the living conditions and the operations of the humanitarian organisations that support Palestine refugees during the immediate crisis and wars. Although this is not the first conflict that G.S. and Palestine experienced, it is evident that this war was dramatically different from all other previous situations. During emergency situations and specifically the series of wars and military attacks in Palestine and the Gaza Strip, the smooth and successful delivery of emergency supplies, i.e. (food, non-food items, tents, medical supplies, etc.) to the refugees and the displaced people were clearly affected, Migdad and Buheji (2024a) ^[10]. Despite the important role that humanitarian organizations, INGOs and other parties play in ensuring the securing of these emergency

supplies and the importance of efficient emergency supply delivery, there are still clear challenges that face the smooth and successful delivery of these supplies during an emergency. Hassoun *et al.* (2025) ^[6].

Also, there is still a lack of comprehensive understanding of the specific challenges faced by suppliers and transporters, local authorities, and international aid organisations to ensure smooth and successful supply delivery. This research aims to explore these challenges, focusing on the experiences of stakeholders involved in emergency supply chains during crises in G.S., specifically the current crisis (after 7 October). The outcome of this research is expected to give decision makers a better understanding of how to mitigate the impact of such challenges and enable better action plans to help smoother and more successful delivery of emergency supplies to the beneficiaries and the displaced people.

3. Objectives of the study

- To identify the key challenges in delivering supplies during emergencies (Literature review and research input-observation and life experience).
- To explore how these challenges impact the efficiency and effectiveness of relief efforts (semi structured interview- transporters and key SCM staff from INGOs/UN).
- To understand the role of coordination among stakeholders in overcoming challenges (data analysis and case study- Logistics cluster function in Palestine-Gaza, Jordan and Egypt).
- To provide recommendations for improving emergency logistics and supply chains.

4. Research Questions

- What are the main logistical challenges in delivering supplies during emergencies?
- How do infrastructure limitations (e.g., transportation

- networks and storage facilities) impact supply delivery?
- What role does communication between various stakeholders (governments, NGOs, local communities) play in the delivery process?
 - How do regulatory barriers or political issues affect the timely distribution of supplies?
 - What strategies or solutions have been successfully implemented to address these challenges?

5. Literature Review- challenges affecting the successful delivery of supplies

Effective Supply Chain Management (SCM) is considered one of the most essential activities that enable the successful delivery of emergency and nonemergency supplies to the needed and planned destination. Sheu (2007) ^[22] defined emergency logistics (EL) as planning, managing and controlling the efficient flow of relief, information and services from the point of origin to the destination to meet the immediate needs of affected people in emergencies.

Wenping *et al.* (2024) explained the importance of the emergency logistics supply chain (ELSC) and its role to help in restoring normal activities in disaster-affected areas, thus helping to increase the resilience of communities, Buheji and Mushimiyimana (2023) ^[2]. The study analysed factors affecting the vulnerability of supply chains to help develop resilient supply chains, Migdad and Buheji (2024c) ^[12].

The results showed that coordination and cooperation, information and communication mechanisms, and organisational operating environment are among the most critical factors affecting SCM success. Agarwal *et al.* (2020) assessed a range of Humanitarian Logistics barriers and identified a lack of inter-agency coordination and collaboration as the most significant difficulty for the Humanitarian Supply Chain. Sadeghi Moghadam (2017) and Wenping *et al.* (2024) found that 'lack of coordination and cooperation between Emergency Logistics Supply Chain (ELSC) operating agents' is the biggest obstacle in emergency response activities and that lack of coordination leads to an increased risk of the Supply chain. John *et al.* (2019) ^[8] concluded that private companies are more interested in the benefits and rewards of relief than NGOs and governments, and volunteers and NGOs usually do not seek rewards from relief activities but rather ensure that the victims receive relief. On the other hand, a lack of clarity in the division of responsibilities between collaborators and a lack of coordination can affect the efficiency of ELSC operations. In studies of flood relief in Chennai, scholars have found that inadequate supplies but lack of coordination can also lead to victims not receiving relief.

Wenping *et al.* (2024) found that "the socio-organizational environment factor" and 'Information communication mechanism' are considered critical to affecting the proper and effective response to the emergency. The influence of the social-organizational environment consists mainly of the stability of the institutional and disaster area environment, as adequate information is a prerequisite for the reliable success of the supply chain delivery. Wenping *et al.* (2024) found that delays in the initial emergency decision-making response, an apparent disconnect between emergency operations and information dissemination, a lack of unified command at critical times in the emergency and a general lack of emergency experience and knowledge among the decision-making team all will result in affecting successful delivery of supplies to the affected people.

Hu and Dong (2019) ^[9] emphasized the importance of transportation companies during an emergency. Also, the lack of private courier companies (transporters) and transit centres, the lack of clear and safe channels (green channels) for the transport of relief supplies, and the absence of free transport services for supplies can affect the efficiency of emergency relief. The role of logistics service companies is irreplaceable in this emergency relief process, using several companies' transit centres, storage centres and transport network capabilities to minimise the damage caused by the disaster. Besides, problems in dispatching supplies, lack of unified communication and command and the absence of guidance and training for the managers may lead to apparent challenges to the smooth and effective delivery of the supplies.

Negi (2022) ^[18] conducted qualitative research through a thorough literature review in which he summarized the main challenges that affect the successful delivery of supplies as follows: "The emergency supply chain includes a lack of information flow, insufficient preparation for Humanitarian Logistics (HL), and the non-accessibility of relief items in sufficient quantities. Additionally, it was discovered that the government response system in most of the incidents had flaws such as inadequate information management systems, inadequate planning, and inadequate preparedness for maintaining the supply chain of relief documentarians, lack of training for officials, lack of concentrated efforts on maintaining relief logistics supply, and duplication of efforts between the government and non-government sectors.

Moreover, there is a dearth of clear-cut criteria or plans for assessing the estimations of relief supplies and logistics, and as a result, many nations across the globe lack a system for maintaining minimal reserves in warehouses or relief centres. Humanitarian Organizations must deliver the proper assistance to a suitable location at the appropriate time and at the relevant cost. However, the obstacles to attaining this are numerous and complex: procurement delay, lack of resources and logistics capacity, road and infrastructure destruction and congestion, no unified software among INGOs resulting in duplication of efforts, security issues and looters, delay at queues, donations not enough, etc. Hassoun *et al.* (2024) ^[7] During an emergency, the role of all key players, including INGOs, government, and others, in supporting supply delivery's success was clearly highlighted. Gheibi *et al.* (2021) conducted qualitative research presenting the role of the athletes during an emergency to ensure the success of the successful delivery of the supplies. The study was designed and performed to investigate the factors affecting the development of the humanitarian aid supply chain by popular athletes using mixed research of qualitative and quantitative methods.

Noman (2024) ^[19] concluded that adopting resilience and other dynamic capacities can enhance organisational and supply chain performance. This research study provides insight to manufacturing firms' practitioners and managers on improving their resilience levels in the supply chain. This specific research study plays a significant role in the literature by highlighting the concept of supply chain resilience and the performance of organizations in this area.

Mora – Ochomogo. *et al.* (2016) ^[17] presented a set of unique characteristics of inventory management in situations where humanitarian help is required, such as great-impact disasters, wars, hunger and others. The differences between commercial or classical inventories and humanitarian

inventories are significant. However, in the case of a disaster or other humanitarian case, many different items must be collected and delivered, therefore the necessity of more models considering multiple different items. In some models developed qualitative factors, such as cultural or human resources matters, are considered. Factors that in real operations can define the success of the supplies' delivery.

Diaz (2021) conducted a PhD research on the factors that affect supply chain performance during humanitarian assistance and disaster response operations, in which he examined the theoretical coordination nodes, resource sharing, standardisation of operations, joint logistics effort, and postponement of humanitarian supply chain performance. Results revealed the positive direct effect of standardization of operations and joint logistics efforts on supply chain performance. However, standardisation of operations' impact on supply chain performance is weakened by the moderating effect of resource redundancy. Results inform future military and civilian humanitarian assistance actors on the effects of studied coordination nodes on supply chain performance.

In summary, from the general framework during emergency context, the previous studies on emergency supply chains have highlighted various issues and challenges that affect the smooth delivery of supplies to the displaced people or the designated humanitarian organizations' warehouses and destinations, such as:

- **Logistical difficulties:** Delays in transportation, poor road conditions, looted trucks by gangs, and lack of storage capacity, capacity of transporters for internal movements.
- **Communication barriers:** Inadequate coordination between different agencies and the lack of effective communication systems during crises, no responsibility framework within the clusters, lack of proper communication tools, duplication of efforts.
- **Infrastructure and access problems:** Limited access to disaster-affected areas due to destroyed infrastructure, security concerns, and coordination difficulties by Israelis (missions declined/rejected).
- **Political and regulatory issues:** Trade restrictions, lack of government coordination and bureaucracy, contractual clauses inadequacies, unclarity of the entry priorities, i.e. (WASH, Medical, Food, non-food, etc.), roles between the SCM-Logistics parties, Egyptian Red Crescent)
- **Supply shortages and Warehouse and inventory issues:** Insufficient stock or challenges in resource distribution.
- **Rigidity of the SCM system-** weak flexibility and adaptability and absence of distribution plans by many humanitarian organisations
- **Lack of training and experience of the SCM members**
- **Delay and weak planning at the procurement** of emergency supplies
- **Inadequate planning and unified** information management systems

However, most of the research has been quantitative, with a limited focus on the lived experiences of those involved in the delivery process, which this study intends to address using qualitative methods.

6. Research Methodology

This research will be conducted using qualitative research methodologies and techniques to get a deep understanding of the challenges facing the successful delivery of supplies (emergency or non-emergency) to Internally Displaced People (IDPs) during emergency contexts and specifically since the beginning of the current war at Gaza (October 2023). Semi-structured interviews, action research - researcher's participation within the SCM community, data and document analysis and reviewing similar literature will be the methodology techniques in this study. Migdad and Buheji (2024b) ^[14]

This research used qualitative research methods to explore the challenges in delivering supplies during emergencies focusing mainly on these challenges during wars against Gaza.

The specific qualitative techniques employed will include:

- a) **In-depth Interviews:** Semi-structured interviews were conducted with key stakeholders involved in emergency response efforts, including:
 - Emergency responders (the main three transporters of the emergency and non-emergency supplies) and three representatives from INGOs and the largest UN organisations that handled and are still handling the supply chain and logistics activities.
- b) **Document Analysis:** Review of reports, policies, and other documents relevant to emergency logistics to understand the institutional and regulatory challenges.
- c) **Input from the researcher (direct engagement):** who is an SCM specialist operating in one of the humanitarian organisations and have deep knowledge and experience in the challenges experienced in supply delivery during an emergency context

As far as the researcher's input and reflection are valuable according to their sound engagement and participation in SCM and emergency contexts, most of the presented challenges were clearly noticed by the researchers who experienced many wars in G.S. (2008 till the current war against Gaza that started in October 2023). The research engagement in daily observation and interactions within the supply chain communities in Gaza and Palestine, including (humanitarian organisations, INGOs, and main logistics transporters of emergency and non-emergency supplies), gave him a deep analysis and overview of the research problem. The research methodology will be considered one of the unique research projects that involve (*Action Research*) as having a clear participatory role of the researcher.

As Sharan and Tisdell (2016) ^[21] explained, action research is a form of practitioner research. "It not only seeks to understand how participants make meaning or interpret a particular phenomenon or problem in their workplace, community, or practice, but it also usually seeks to engage participants at some level to solve a practical problem".

Sampling: Purposive sampling was conducted through semi-structured interviews with the three primary transporters (transportation companies) that implemented and are still implementing the transportation services of the emergency supplies from the main crossing points in G.S. Be employed to select participants who have relevant experience in emergency logistics and supply delivery.

These will include mainly the main logistics transporters, SCM individuals from INGOs and Humanitarian organizations and the researcher input from his experience and being one of the key SCM community members within the humanitarian organizations.

Ethical Considerations

Ethical concerns will be addressed throughout the research process:

- **Informed Consent:** All participants agreed to discuss the challenges affecting the successful delivery of emergency supplies during the emergency period, but due to the sensitivity of some information and to keep some confidentiality on the resources, the names and the organizations will not be disclosed. The important part of this research is the content and the shared information and input that were triangulated within the respondents and the literature review. The purpose of that was to get more validity and reliability of the feedback.
- **Confidentiality:** due to the sensitivity of such information, the source of information will not be implicitly mentioned but rather referred to it explicitly, i.e. (names of transporters). Data will be kept confidential, and no identifying information will be used in publications or reports.

7. Results and Discussions

Part I- Transportation Company (A, B and C) were interviewed (Coded as TA, TB and TC). The interview was conducted over the phone on 6th and 7th Jan 2025. The discussion started by welcoming the interviewee and thanking him for giving me this opportunity to share his valuable experience and knowledge on the challenges that he experienced and affected the smooth delivery of the supplies to the IDPs.

The interview started by asking if they believed that there were any challenges in delivering emergency supplies, including food, non-food items, medical supplies, etc. The answer was “absolutely yes”. Everyone who has even one-day of engagement in the logistics process and the supply chain within the humanitarian organisations knows that there are a lot of challenges that result in ineffective delivery or shortage of supplies. Interview (A) clarified that there are many challenges that can be categorised as follows. Since the interviewees repeated many challenges, the list below will refer to each challenge they mentioned with a remark (TA, TB and TC) (Transporter A, Transporter B and Transporter C). The Importance of these challenges will be highlighted as the interviewee referred to (H- High impact, M -Moderate impact and L- Low impact).

- No proper coordination and planning among the humanitarian organisations regarding the entry of the supplies and distribution plans. The absence of such lack of coordination and planning resulted in worst results that the delay of the entry or even the looted supplies. (TA-H, TC-H)
- Closure of the borders, mainly Rafah crossing, while thousands of trucks were waiting. This resulted in hundreds of food supplies being damaged (spoiled) because of the storage conditions under the sun. The researcher witnessed this as he recalled 12 trucks that were fully loaded with food supplied and were surveyed as being damaged due to a four-month waiting time at the crossing. (TA-H, TB-H, TC-M)

- Huge quantities and trucks are exposed to theft and attack by looters (TA-H, TB-H, TC-H).
- Delay from the Israeli authority to approve the entry of the supplies. This usually results in months of waiting time on the Egyptian or Jordanian sides before approving the entry. (TA-H, TB-H, TC-M)
- Using transportation without proper escorting and security (TA-M, TB-H, TC-M)
- Limited accessible and possible routes to be used to transport consignments from the borders. These routes are attacked and under the control of military gangs. (TA-H, TB-H, TC-H)
- Absence of power from the government due to the war. (TB-H, TC-H)
- Using warehouse and stores without a proper security and then being exposed to theft (TB-H, TC-M)
- No clear distribution plans from the humanitarian organisations to the beneficiaries. Some families did not receive any support, while other families received support within a short period of more than one time. (TA-H, TB-H, TC-H)
- Repeated evacuation orders by Israeli forces during invasions resulted in losing huge quantities of supplies without enough notice time to move these emergency supplies from the WHs to another one. (TA-M, TB-M, TC-M)
- Lack of suitable stores and Warehouses for humanitarian organisations. (TA-M, TB-M, TC-M)
- Poor procurement plans by the organisations for the actual needs of the IDPs. (TB-H and TC-H)
- Poor needs assessment of the needed supplies (each organisation has its own teams that conduct the assessment).
- “Unfortunately,” as an implicitly used term by two interviewees, some INGOs used to enter the emergency supplies but then be sold for the commercial sector although planned for IDPs. (TA-H, TB-M)
- Entry Small quantity that did not cover 30-40% of the IDPs. The originally planned consignment was to be 2000 trucks daily, while, in reality, we were transporting (the maximum number did not reach 600 /daily). This was only during the first three months of this emergency. Following that, we did not manage to enter in some days 10 trucks and even some of these trucks were looted under fire. (TA-M, TB-H, TC-M)
- Some commercial traders have the power to coordinate entering their supplies (commercial supplies) that take advantage and priority over the humanitarian trucks. (TA-M, TB-M, TC-M)
- Dramatical increase of the costs for security and escorting of the emergency supplies. In average each truck costs ~\$7000/truck (for transportation and escorting from Egypt to Middle area/South area WH for the organizations. (TA-H, TB-H, TC-M)
- Dramatical increase of the maintenance, repair costs and spare parts of the trucks (example-one tire costs now ~\$1000 while before the war \$150). Plus, the shortage of spare parts supplies from the market affected the effectiveness of the transportation fleet (trucks) (TA-H, TB-H, TC-H)
- Using improper trucks (not closed trucks) that exposed them to risk by looters. (TB-M)
- The logistics capacity, including loading and offloading of the main and sole logistics company inside the

crossing (sterilized area) that, on many occasions, could not handle the entered trucks at the yard of the crossing inside Kerem Shalom (KS) (the main entry point of the goods/ consignment).

- The instability of the entry mechanism of the supplies from Israeli authority (entry points, approvals of the supplies as some supplies might be rejected while others might be allowed). Currently, we have K.S., Erez (north Gaza area and sometimes Kusofim crossing. (TA-H, TB-H, TC-H)
- Some humanitarian organisations use the warehouse as a distribution point instead of having distribution points. This results in missing inventory management control (sometimes huge quantities) (TA-H, TB-M)
- Lack of coordination between the transporter and the INGO/ Humanitarian Organization focal point, specially if transporting sensitive supplies that need to be quickly distributed (medicines- This happened at the beginning of the war when vaccines were received and were supposed to be kept in a mobile refrigerator truck. It was difficult time as I arrived Rafah Health Center with the truck and was waiting anyone to receive the vaccines or to move it to the cold rooms...I remember that was difficult and stressful as I started calling the key persons to ensure safe storage of the vaccines...(the transporter said). (example presented by TC-H). TB-H, TC-M
- The dramatical increase of the transportation cost due to the necessity to have security and escorting members on each truck (100% increase). Such increase of the associated cost was not factored during the procurement and budget planning stage that affecting the ability of some humanitarian organization to arrange the entry from the crossing borders to Gaza. (TA-M, TB-M, TC-M). This result could be reasonable as being from the transporters themselves.
- Crazy increase of fuel price from the black market (from \$2/L to \$20/L). This affected the transportation costs specially the budget of the humanitarian INGOs (not the large size ones like UNRWA, UNICEF, WFP-Strongest financially and logistically). (TA-H, TB-H, TC-H)
- Experience and knowledge of logistics team in some INGOs and humanitarian Organizations that have some consignments at the boarders. (TB-H)
- Some organizations suspended their operations as being attacked by the Israeli forces and they lost some of their members (World Central Kitchen (WCK) incident where three international staff were killed, ANERA, and others). This affected the flow and continuity of supplies to the IDPs. (TB-H, TC-H).

Literature reflection on the findings obtained feedback was compatible with many researchers' outcomes such as Wenping *et al.* (2024), Agarwal *et al.* (2020), John *et al.* (2019) who referred to profit priorities by transporters, Hu and Dong (2019) who referred to role of transportation companies and their role and capacity status, Negi (2022) ^[18]- who showed the importance of the coordination, planning preparedness and the need to avoid efforts duplications, security issues and looters impact. Noman (2024) ^[19]- who illustrated the importance of supply resilience, Mora – Ochomogo. *et al.* (2016) ^[17] referred to the extent of inventory and WH systems during emergencies to ensure a successful delivery cycle, and Diaz (2021) highlighted the sensitivity of planning and joint efforts coordination without

redundancy among humanitarian organisations to ensure effective success.

Part II- Reflection from the researchers (Participatory role and daily observation as Supply chain expert and focal point -one humanitarian organisation)

NB: (H- stands for High challenge, M-moderate, L-Low Challenge)

As the researcher is part of the Supply Chain community and the focal point of the Supply chain management with one of the main humanitarian organisations, the daily observations and the interaction with the other humanitarian organisation's focal points and emergency stakeholders could be valuable contributions to this research.

As a reflection of the current emergency period (beginning of Oct 2023), the supply chain process experienced a lot of challenges that affected not only the arrival of emergency supplies to the vulnerable people who suffered the displacement from their homes but instead affected the community and the vulnerable people expectations that humanitarian organisations had previous readiness and plans to cope with such size of devastation. Also, the supply chain capacity (resources and knowledge) of these organisations to support effectively during emergencies was not up to the needed level.

Take UNRWA as one example of the main humanitarian organisations that responded immediately to this emergency. From the last intensive wars, UNRWA prepared an emergency response plan to help in quick and effective response to any emergency situation based on the assumption of 150,000 IDP displacement for one month (as per internal Emergency Response Standard Operating Procedure). Around 50 installations were designed as Designated Emergency Shelters DES that can accommodate short-term IDPs. Besides, from SCM, there was a plan to have 20-30% buffer stock for this purpose as part of the warehouse management. Also, there was around one-year training, simulation and capacity building before this war on the emergency response. Teams were built to cope with any coming emergency situation. No one can deny that such an emergency was far away from what was expected in terms of the damages, devastation, and nature. Even the pre-designed emergency plans did not manage to cope with such conditions.

Despite all this, at the SCM level, UNRWA, jointly with other UN sisters and INGOs, started the action immediately. The logistics cluster was established with the lead by WFP. UNRWA established supply and logistics teams in Egypt and Jordan to start procurement of emergency supplies. Following that, the procurement team in Gaza started procurement and logistics activities as well, including securing the main logistics transporters to handle the procured supplies.

As clearly noticed, although the vast quantities of emergency supplies, including food, non-food items, tents, Mobile Storage Units (MSU), hygiene kits, dignity kits, mattresses, mats, blankets, jerry cans, etc. that were either donated or procured internationally (Jordan and Egypt), the flow of entry experienced a huge challenge. The following are the main challenges that the researcher witnessed and observed from the day-to-day life activities:

- No clear identification of the needed items to be procured. (M to H).
- Weak coordination at the logistics level of prioritising

the entry of supplies (H).

- Looted trucks and supplies during the delivery stage (H).
- Denial and delay by the Israeli government to allow entry of supplies at the border. For example, the OCHA report (Humanitarian Situation Update 237, Gaza Strip, 2024) ^[20], showed that the humanitarian response is hampered by the ongoing blockade, which limits the entry of essential resources, including winterisation items, fuel, and spare parts, all of which are already in short supply, and hampers preparedness activities. The note adds that the road network, already damaged by airstrikes and ground operations, will deteriorate further as seasonal rains impair road conditions, making it even harder to deliver critical supplies. By September 2024, according to this note, 68 per cent of Gaza's roads were damaged, and approximately 12,000 metric tonnes of rubble obstructed transportation routes. The Israeli authorities have kept the Gaza Strip disconnected from electricity since October 2023, resulting in full reliance on alternative power sources that are insufficient. (H).
- Rejection of many supplies to be allowed to enter Gaza such as generators, solar system, construction materials and others. This challenge is clearly reported by OCHA and many other humanitarian organizations on the operating on ground in Palestine and the Gaza Strip.
- Weak or absence of distribution plans by many organisations. (H).
- During the period April -Dec 2024, the researcher witnessed many critical and serious incidents that were reported at the humanitarian organisation level of looted trucks (one of these incidents just in January where 8 fuel tankers with around 250K L of solar were looted that were supposed to be used for hospitals and the humanitarian operations. The researcher witnessed tens of looted incidents that had a severe impact on the flow of delivered emergency supplies to Gazan's people. One of these incidents was reported with high attention in November 2024 when around 100 trucks were attacked and looted that were carrying emergency supplies for UNRWA. This incident was reported by CNN (Ref.<https://edition.cnn.com/2024/11/18/middleeast/aid-trucks-looted-gaza-unrwa-intl-latam/index.html>).
- It is strongly believed that the continuous incidents of attacking the humanitarian aids are considered the most critical challenge that affects SCM a delivery of emergency supplies. (H).
- The delay and rejection of entry of these humanitarian supplies for UNRWA and the other humanitarian organizations by the Israelis is considered a serious and critical challenge as well that needs international attention and immediate intervention, taking into consideration that UNRWA, WFP and UNICEF have more than 80% of the supplies share among all other parties. The reports from OCHA regional office in Cairo showed that in average there is a delay of two months waiting time for the humanitarian assistant supplies to enter Gaza and in many occasions the waiting time reached more than 7 months (See Annex 1- OCHA report analysis- delivery of the emergency supplies). Besides, the analysis showed drastically decrease of trucks entry since May 2024 (in average, monthly number of trucks 700 trucks while this is the needed daily number of trucks that was supposed to be entered. The analysis in Annex 1 showed clear example of the

intentional delay and rejection by Israelis of the humanitarian aids and supplies (~1000 trucks delayed and 55 rejected in Just December 2024). (H).

8. Conclusion and Recommendations

Out of the above obtained results and the reflections that were obtained, it is clearly evident that there is general agreement on the challenges affecting the delivery of supplies during the emergency period. Also, critical challenges affect the smooth delivery of humanitarian aid and emergency supplies for the affected people during crises and emergencies. The literature and the results of the research showed that absence of security situation that resulted in very high rates of looted trucks by gangs before reaching the vulnerable people, the intentional delay and rejection of supplies' entry by Israeli authorities, lack of coordination and proper communication among the humanitarian organization, entry of small humanitarian aids, logistics and supply chain management factors including procurement issues, communication and coordination factors, political factors (absence of security conditions, Israeli's authority rejection and denial of supplies entry), technical capacity of the transporters, dramatical increase of the fuel costs that used by transporters, hi that are not enough to meet the high needs of vulnerable people, high increase of the expenses associated with transportation, maintenance and repair of trucks, high costs/budget needed for securing trucks to the final destination with escorting, absence of distribution plans, Israeli's attacks to many humanitarians organizations that resulted in suspending their operations, inadequate warehouse management system and tracking inventory.

The conducted research showed high similarity in many challenges that affect delivery of humanitarian aid and emergency supplies Wenping *et al.* (2024), Agarwal *et al.* (2020), John *et al.* (2019) ^[8]-profit by transporters, Hu and Dong (2019) -role of transportation companies, Negi (2022) ^[18]- coordination, planning preparedness, efforts duplications, security, looters, Noman (2024) ^[19]- supply resilience, Mora – Ochomogo. *et al.* (2016) ^[17] inventory and WH, Diaz (2021) -planning, joint efforts, redundancy, coordination

All of the above can be observed as critical challenges that affect the delivery of supplies during emergencies and specifically as a real reflection from the case study in the Gaza Strip during the current emergency situation that started in October 2023. The main challenges that were found unique here are the restrictions to allow entry of supplies by the Israeli authorities, the on-purpose high rate of looted trucks by a certain category of people in the absence of the law and the government power, the on purpose delay of thousands of trucks at the crossings that resulted in getting them damaged, the absence of comprehensive strategic distribution plans from all humanitarian organisations (i.e. each has its own arrangement to distribute which really affected proper arrival of these supplies to the vulnerable people(unfortunately all people became under this category in this devastating war). As a practical recommendation, the researchers recommend the following:

- a) Immediate end of this unjust war against Gaza with immediate intervention from the international community with clear reconstruction and recovery action plans.
- b) To avoid looted trucks, ensure joint efforts by the local community to ensure safe delivery of the consignment or using alternate routes such as fence road or;

- c) Use a unified database for distribution plans within the humanitarian organisations,
- d) Enhanced coordination and communication within the humanitarian organisations by establishing steering committees at the beginning of any similar emergency,
- e) Getting as possible logistics hub-large Warehouse or log-base with high-security level,
- f) Engaging the international community with the humanitarian role of the organizations and giving it more protections during crisis as per the international law.
- g) Establishing comprehensive distribution plans by each organisation to ensure fair and right delivery of the supplies

9. Limitations and significance of this research

- Accessibility to observe challenges by the researcher due to security concerns (borders and crossing points)
- Sensitivity of some data/information that might be difficult to disclose.
- Geographical limitation- the study will focus its results and outcomes based on the emergency context within Palestine and specificity at the Gaza Strip

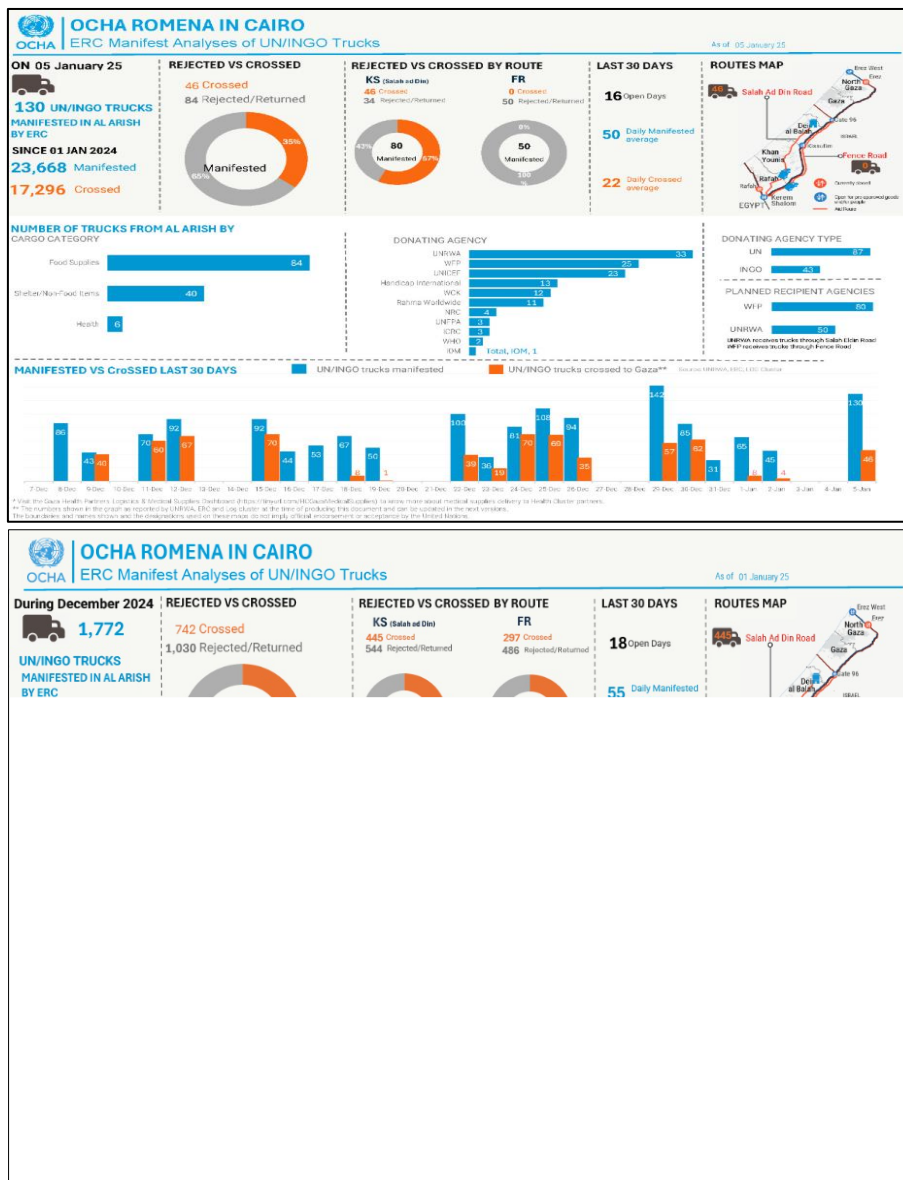
recommendation

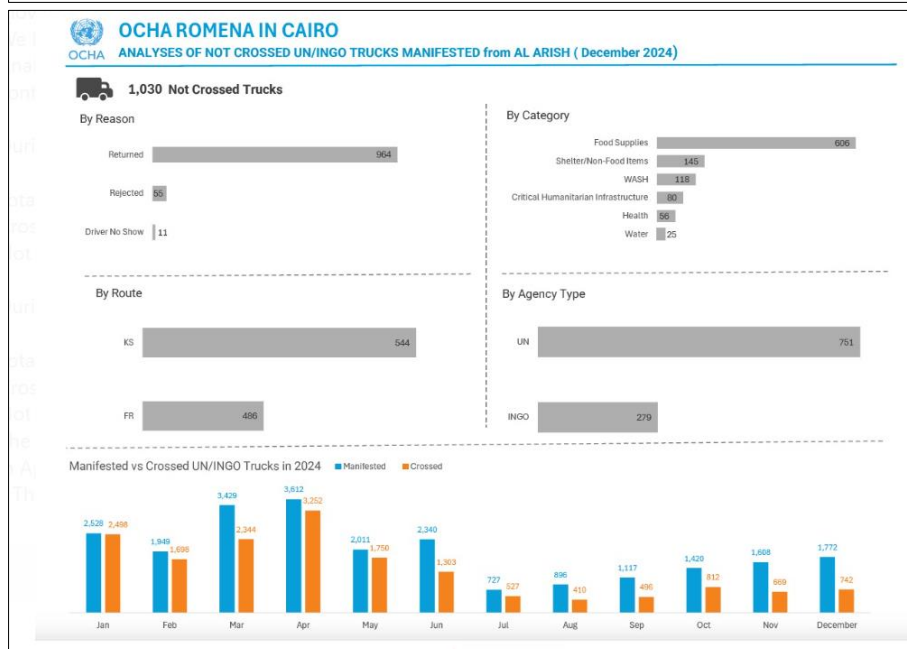
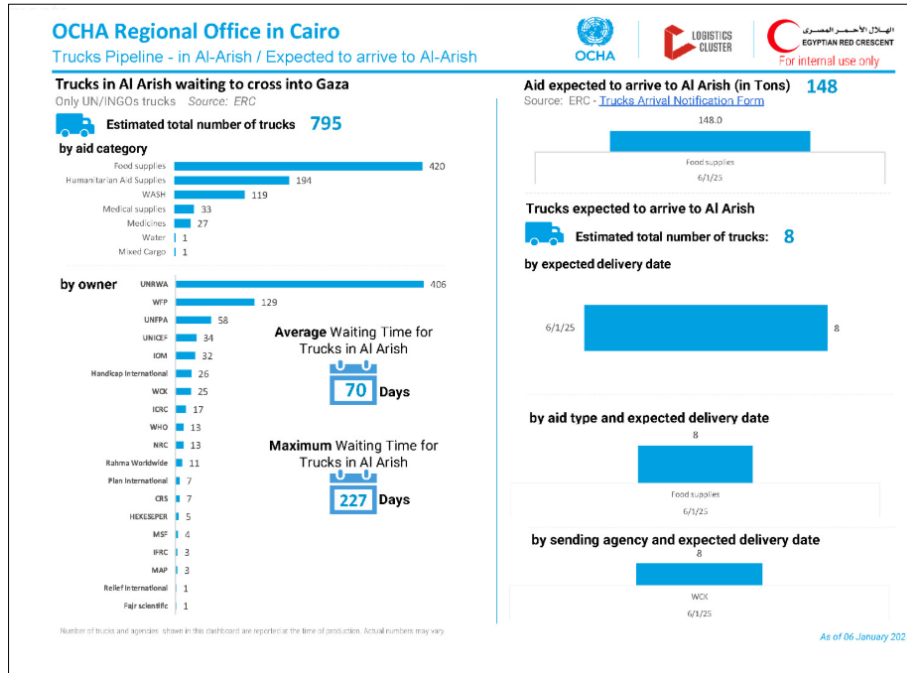
This study was conducted through qualitative research using semi-structured interviews, literature review observation and the researcher's role as a supply chain management practitioner within the humanitarian organisations. The study is expected to contribute valuable insights to the field of disaster management and humanitarian logistics. Focusing on qualitative data will provide a deeper understanding of the experiences of individuals involved in emergency response and offer practical solutions to improve supply delivery in future crises. The outcome is expected to help humanitarian organisations and the key players who support emergency contexts with the bottlenecks that affect the smooth delivery of emergency supplies to displaced people.

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Annex 1: Charts from OCHA -delivery status analysis





As per the report from OCHA (Source – Logistics Group – Not published)- During December 2024: Total Manifested Trucks: 1,772. Crossed Trucks: 724 (42%) Not Crossed Trucks: 1,030 (58%) During the year 2024, Total Manifested Trucks: 23,493. Crossed Trucks: 17,246 (73%). Not Crossed Trucks: 6,247 (27%) The highest number of crossed trucks number was in April: 3,252. The lowest number of crossed trucks number was in August: 410.

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