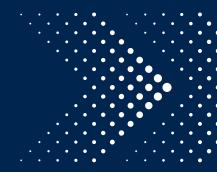
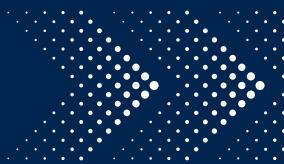


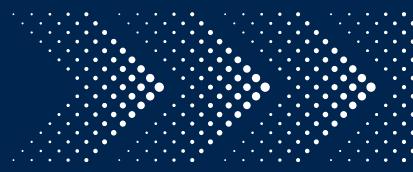
# The State of Logistics and Supply Chain in the Humanitarian Context 2021-22

**Global Survey Findings** 

October 2023









The Center for Humanitarian Logistics and Regional Development (CHORD) is a joint venture of Kühne Logistics University (KLU) and HELP Logistics of the Kühne Foundation. CHORD aims to bring together the best of two worlds by combining top-class academic research and education with operational training and consulting excellence. As a thought-leading hub, CHORD is delivering innovative logistics and supply chain solutions validated by rigorous research methods to improve social and economic progress in developing countries. <a href="https://www.the-klu.org/chord">www.the-klu.org/chord</a>.

#### **Author:**

Dr Mojtaba Salem

#### **Reviewers:**

Mr Sean Rafter

Prof Dr Maria Besiou

Dr Jonas Stumpf

Mr Niklas Jaeschke

#### **Acknowledgements:**

We are grateful to all the respondents who participated anonymously in the four rounds of our global survey. Their feedback and opinions have been essential for this report. We also want to express our sincere appreciation to the regional directors of HELP Logistics who supported this report in various ways, such as distributing the survey to the relevant stakeholders and providing their valuable insights on the analysis of the findings.

# Contents

Exe	cutive	e Summary	4		
1. lr	ntrod	uction	6		
1.1	Sample of Respondents				
2. S	upply	r chain operations	8		
2.1	Chan	ges in Cost Efficiency and Lead Time Improvement	8		
2.2	Procurement				
	2.2.1	Changes in Procurement Costs	9		
	2.2.2	Changes in Procurement Lead Times	10		
2.3	Transportation				
	2.3.1	Changes in Transportation Costs	11		
	2.3.2	Changes in Transportation Lead Times	12		
3. S	upply	r chain environment	13		
3.1	Supp	ly Chain Preparedness	13		
	3.1.1	Importance of Supply Chain in Humanitarian Organizations	13		
	3.1.2	Investment in Supply Chain Capabilities	14		
3.2	Risk and Resilience				
	3.2.1	Risks in Humanitarian Supply Chain	15		
	3.2.2	Risk Mitigation Strategies	16		
	3.2.3	Organizational Resilience	17		
4. S	upply	r chain development	18		
4.1	Environmental Sustainability and Localization				
	4.1.1	Environmental Sustainability Policy	18		
	4.1.2	Environmental Sustainability Leadership	19		
	4.1.3	Environmental Sustainability Practices	20		
	4.1.4	Localization Practices	21		
4.2	Innovation and Technology				
	4.2.1	Innovation	22		
	4.2.2	Technology	23		
4.3.	Collaboration and Resource Sharing				
	4.3.1	Collaboration	24		
	4.3.2	Resource Sharing	25		
5. C	onclu	ısions	26		

# **Executive Summary**

Humanitarian supply chains are essential for delivering life-saving aid to people affected by crises. However, these supply chains encountered numerous challenges in the complex and ever-changing environment between 2021 and 2022.

They navigated ongoing crises such as the COVID-19 pandemic and the Syrian and Rohingya refugee crises. They responded to new emergencies like the Ukraine and Afghanistan wars, the Northern Ethiopia conflict, and natural disasters such as the flooding in Pakistan.

This report addresses how decision-makers in the humanitarian sector could effectively plan and manage their supply chains during this period and the critical trends in supply chain management. The Center for Humanitarian Logistics and Regional Development (CHORD), supported by the Kühne Logistics University and HELP Logistics, presents findings on the State of Logistics and Supply Chain in the Humanitarian Context for 2021-22. These findings are derived from four bi-annual surveys, which garnered over 2,000 responses from individuals who experienced various operational challenges and opportunities related to humanitarian supply chains during this period. Most of these individuals were national staff primarily affiliated with nongovernmental organizations (NGOs), United Nations (UN) agencies, and public and private sector entities involved in humanitarian operations worldwide.

# Six Key Trends on the State of Logistics and Supply Chain in the Humanitarian Context in 2021 and 2022:

1. Supply chains were perceived as strategic and visible for some organizations, yet significant room for improvement remains for others.

Only around half of the respondents observed that their organization allocated more funds to their supply chains, empowered their supply chain personnel, and considered their supply chain during the initial project planning stage.

# 2. Deterioration in humanitarian supply chain performance.

Most respondents indicated a worsening trend in cost efficiency and lead time for procurement and transportation.

3. Importation delays and security issues emerged as the most critical and persistent risks disrupting humanitarian supply chains.

Most respondents mitigated supply chain risks through supplier framework agreements, information and data sharing mechanisms, and broadening their supplier base.

Supply chain preparedness was enhanced by investing in standard operating procedures (SOPs), ensuring the availability of supplies and logistics services, and establishing contingency partner arrangements.

# 4. Environmental sustainability was inadequately implemented in humanitarian supply chains.

Despite having a supply chain policy for environmental sustainability, less than half of the respondents reported consistently implementing sustainable practices within their organizations.

## 5. Humanitarian supply chains increasingly adopted innovative equipment and information systems.

Most respondents leveraged Information Technology (IT) and instant communication to support their supply chain operations.

## 6. Collaboration among actors in humanitarian supply chains was prevalent.

Most respondents engaged in collective problem-solving, conducting joint planning, and sharing resources with other stakeholders in their supply chain.

These trends underscore the necessity for humanitarian decision-makers to prioritize and fortify their supply chains, as they faced significant challenges in delivering timely and cost-efficient aid to the affected people in 2021 and 2022.

Furthermore, the findings indicate substantial opportunities



for improvement in environmental sustainability and innovation efforts among supply chain stakeholders. While the humanitarian supply chain is recognized as a strategic component, emphasis should be placed on enhancing its representation within senior management ranks and increasing investment in preparedness to mitigate risks.

#### **Six Key Recommendations**

Evidence-based trends are pivotal for humanitarian decision-makers, offering valuable insights into best practices and lessons gleaned from past experiences. Utilizing the identified trends, this report compiles a set of six key recommendations to aid decision-makers in making informed choices for managing their humanitarian supply chains:

# 1. Supply Chain Recognition: Enhance the strategic role and visibility by:

Elevating the representation of supply chain functions in senior executive management.

Incorporating supply chain considerations during the project elaboration and proposal-writing phase.

Advocating for a greater allocation of funds in the supply chain budget.

# 2. Supply Chain Measurement: Uncover factors causing aid delivery gaps by:

Implementing systems to collect and monitor efficiency and effectiveness metrics.

Employing predictive data analytics to optimize cost and lead times for procurement and transport planning.

#### 3. Supply Chain Risk Management: Bolster resilience by:

Conducting risk analysis to identify and prioritize the sources and impacts of supply chain risks.

Developing a risk management practice with mitigation strategies such as framework agreements with suppliers, diversified supplier pool, and collaborative mechanisms among supply chain stakeholders.

# 4. Supply Chain Sustainability: Harmonize actions with advocacy efforts for environmental sustainability by:

Proactively integrating environmental sustainability practices into supply chain processes, including procurement criteria, transport modes, or packaging designs.

# 5. Supply Chain Innovation: Cultivate a culture of innovation by:

Incorporating innovative equipment and information systems into supply chain processes.

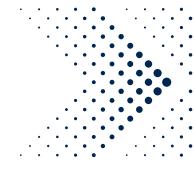
Training staff to effectively utilize digital technologies, such as IT systems.

## 6. Supply Chain Collaboration: Augment efficiency and diminish duplication of efforts by:

Enabling and fostering initiatives for information, service, and resource sharing.

Establishing long-term agreements and integrated supply chain solutions with commercial partners.

This report adopts a holistic perspective to underscore the pivotal role of the supply chain in delivering aid, identifying areas for improvement alongside evidence-based recommendations to assist decision-makers in implementing changes. Given the rapidly evolving and unpredictable humanitarian landscape, these recommendations are crucial for addressing current challenges and anticipating future ones. We, therefore, encourage individuals engaged in humanitarian supply chains to provide feedback on these recommendations and actively participate in the upcoming 2023 global survey that will delve deeper into the implications of these findings.



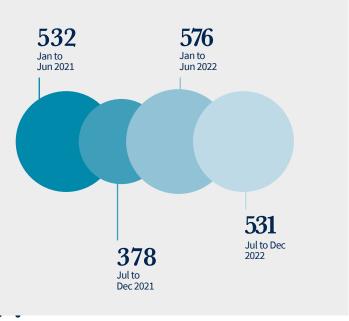
# 1. Introduction

The humanitarian sector is in a continuous state of evolution to meet the changing needs of aid recipients. Supply chains have faced numerous challenges, including the COVID-19 pandemic, geopolitical crises, and the situations in Afghanistan and Ukraine.

To garner a holistic overview of challenges and opportunities within the humanitarian sector, CHORD conducted four biannual surveys between 2021 and 2022, accumulating 2,017 responses. The respondents spanned different organizations, hierarchy levels, and regions, reflecting the experiences, perspectives, and preferences of individuals closely involved in humanitarian supply chains. These insights are invaluable for decision-makers, aiding in identifying areas for improvement within the sector and refining strategies based on evidence amidst rapidly evolving circumstances.

Figure 1: Sample size in each survey round.

Number of surveyed respondents



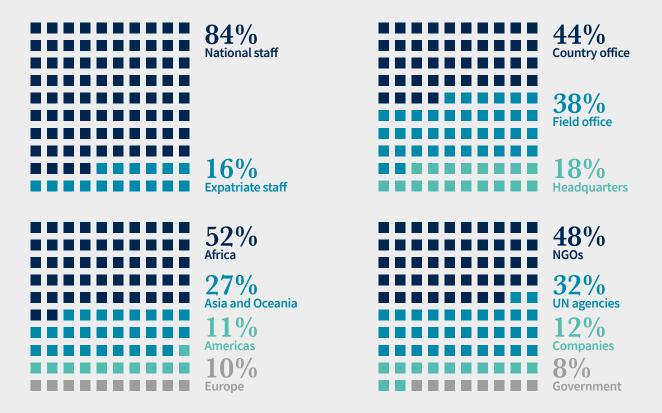
#### 1.1 Sample of Respondents

The biannual surveys were conducted across four temporal intervals: January to June 2021, July to December 2021, January to June 2022, and July to December 2022, targeting individuals involved in humanitarian supply chains. To ensure a diverse sample, data was collected via online platforms and snowball sampling techniques, which entailed reaching out to individuals through email invitations and newsletters and leveraging referrals from existing respondents. Each survey remained open for two months following the specific period under consideration (e.g., for insights collected from July to December 2022, the survey was launched in January 2023 and remained accessible until March of that year).

Conducted in English, French, and Spanish, the survey garnered 2,017 responses representing a broad spectrum of the humanitarian workforce. Although the number of answers for each question varied in each survey round due to non-response, where applicable, weighted averages were calculated based on the sample size for each question. Despite these fluctuations, the overall average composition of respondents across 2021 and 2022 accurately reflects the sample's representativeness. Most respondents were national staff (84%), with expatriate staff comprising 16%. They were distributed across various organizational levels, with 18% based at headquarters, 44% stationed at country offices, and 38% operating in field offices. Geographically, Africa had the highest representation (52%), followed by Asia and Oceania (27%), the Americas (11%), and Europe (10%). The diversity extended to organizational representation, including NGOs (48%), UN agencies (32%), government agencies (12%), and commercial sector partners (8%).



Figure 2: Average percentage of respondents by affiliation across 2021 and 2022.



The responses encapsulated the perspectives of local staff and individuals close to the aid recipients and operational challenges, complemented by insights from expatriate staff and those overseeing the strategic direction of organizations in the humanitarian sector. This report presents a comprehensive analysis of the survey data, categorized into three main themes: supply chain operations (Section 2) examining changes in costs and lead times of procurement and transportation; supply chain environment (Section 3) delineating the types of risks, mitigation strategies, and resilience capabilities; and supply chain development (Section 4) exploring advancements through sustainable and localized practices, innovation, technology adoption, and collaboration. Each section elucidates the supply chain dynamics between 2021 and 2022, offering valuable insights.



# 2. Supply chain operations

# 2.1 Changes in Cost Efficiency and Lead Time Improvement

Cost efficiency and lead time<sup>1</sup> are critical indicators of operational performance showing whether supply chains use the lowest possible level of funding and resources to deliver aid in the shortest amount of time to the affected people. Survey findings indicate that the humanitarian supply chains experienced a notable worsening in cost

efficiency and longer lead times throughout 2021 and 2022. For example, the percentage of respondents experiencing worsened cost efficiency rose from 13% in 2021 to 56% in 2022, whereas those achieving improved cost efficiency dropped from 62% to 31%. Similarly, the percentage of those facing lengthened lead times increased from 18% to 43%, whereas those managing to decrease their delivery time declined from 53% to 29% between 2021 and 2022.

Figure 3: Percentage of respondents who reported worsening cost efficiency and lead time over 2021 and 2022



<sup>&</sup>lt;sup>1</sup> Lead time is the time between placing an order and receiving the goods or services. This is a key indicator for the effective delivery of humanitarian aid.



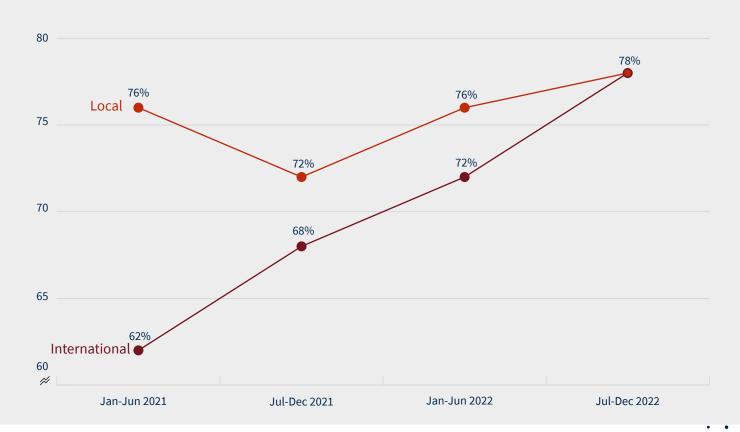
#### 2.2 Procurement

Survey findings show that both international and local procurement costs and lead times increased for the majority of respondents between 2021 and 2022. However, on average, respondents perceived international procurement to offer relatively better opportunities for cost reductions between 2021 and 2022. Findings also reveal a stark contrast in lead times between international and local procurement. The lead time for international procurement was reported to be longer for most respondents relative to the lead time for local procurement during 2021 and 2022. A smaller percentage of respondents also indicated shorter lead times for international rather than local procurement, indicating that local procurement was perceived as relatively more effective in terms of lead time reduction. This finding implies that taking a balanced and diversified approach, that leverages both international and local procurement sources, optimizes procurement performance.

#### 2.2.1 Changes in Procurement Costs

Findings show that, on average, 71% of respondents indicated an increase in international procurement costs over 2021 and 2022. While 62% of respondents reported higher costs in the first half of 2021, their percentage jumped to 78% in the second half of 2022. Conversely, considerably fewer respondents experienced a reduction or stability in their international procurement costs in the same timeframe. Local procurement costs also remained persistently high for an average 76% of respondents over 2021 and 2022, with an upward trend to 78% in the second half of 2022. And fewer respondents indicated reduced or unchanged costs in their local procurement over 2021 and 2022. A notable finding is that over 2021 and 2022, on average, 29% of respondents indicated a decrease or no change in their international procurement costs, while only a quarter of respondents (24%) did so for their local procurement.

Figure 4: Percentage of respondents who reported worsening in local and international procurement costs over 2021 and 2022.

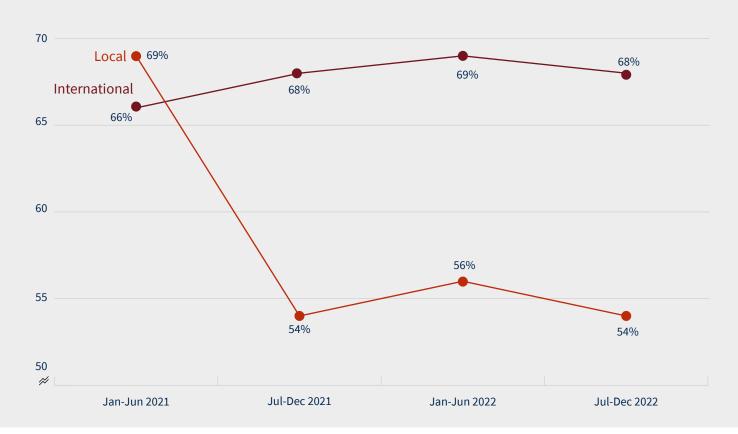


#### 2.2.2 Changes in Procurement Lead Times

The findings also reveal a stark contrast in the perception of lead times between international and local procurement. The lead time to procure internationally increased for an average 68% of respondents over 2021 and 2022, whereas only an average of 58% reported an increased lead time to procure locally during the same timeframe. This indicates international procurement was perceived to face more delays than local procurement. Remarkably, the percentage of respondents reporting shorter lead times for international procurement significantly declined from 29% to merely 8% by the end of 2021 and remained low throughout 2022.



Figure 5: Percentage of respondents who reported worsening in local and international procurement lead times over the second half of 2021 and 2022.



#### 2.3 Transportation

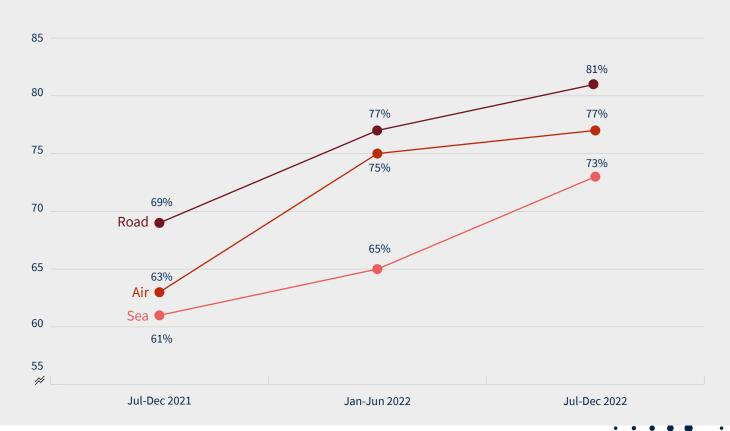
Survey findings reveal that the cost and lead time of transport increased for most respondents in 2021 and 2022. Particularly, the situation worsened in the second half of 2022, as more respondents reported cost and lead time increases for all three modes of transport.

#### 2.3.1 Changes in Transportation Costs

Findings show that air, sea, and road transport experienced cost increases in 2021 and 2022, but with differences across the modes. Road transport had the highest average

percentage of respondents (76%) reporting cost increases between second half of 2021 and 2022. Similarly, on average, 72% of respondents indicated cost increases for air transport across the year and a half. Sea transport had the lowest average percentage of respondents who reported cost increases relative to the other two modes of transport, with average 66% between second half of 2021 and 2022.

Figure 6: Percentage of respondents who reported worsening in transportation costs over the second half of 2021 and 2022.



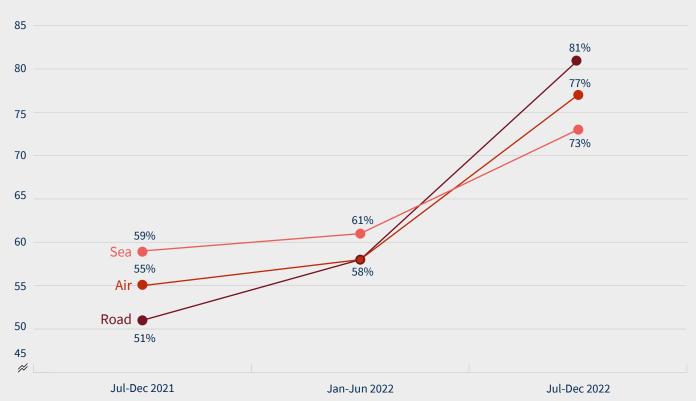
#### 2.3.2 Changes in Transportation Lead Times

The findings show that the majority of respondents perceived an increase in the lead time for transport by air, sea and road in 2021 and 2022. The average percentage of respondents who indicated an increase in their lead times hovered around 64% for all three transport modes

over the year and a half. Interestingly, the percentage of respondents who reported an increase in lead times of road transport rose sharply in the second half of 2022, reaching 81%.

This percentage for air and sea transport also increased considerably, reaching 77% and 73% respectively.

Figure 7: Percentage of respondents who reported worsening in transportation lead times over the second half of 2021 and 2022.





# 3. Supply chain environment

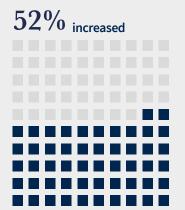
#### 3.1 Supply Chain Preparedness

Survey findings suggest that the supply chain was recognized as strategic and visible by an average half of respondents who, over 2021 and 2022, increased their supply chain budget, empowered their supply chain staff, and aligned their supply chain planning with project design. Moreover, more than half of respondents invested in the creation of SOPs, in the availability of supplies and logistics services, and in contingency partner arrangements to prepare their supply chains between 2021 and 2022.

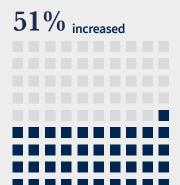
# 3.1.1 Importance of Supply Chain in Humanitarian Organizations

Data reveals that a small majority of respondents (average 52%) reported that their organization increased its supply chain budget between July 2021 and 2022. Likewise, an average 51% of respondents reported a rise in the representation of supply chain functions in senior executive management. The data further shows that less than half of respondents (average 48%) suggested the consideration of supply chains during the project elaboration/proposal writing phase over 2021 and 2022. In this time frame, an average 52% of respondents indicated a lack of consistently including supply chains in their organization's project planning.

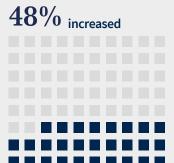
Figure 8: How respondents rated the importance of supply chain for their organization on average between the second half of 2021 and 2022.







Consideration of supply chain during project elaboration/ proposal writing phase



Supply chain representation in senior executive management

Increased No changes or decreased



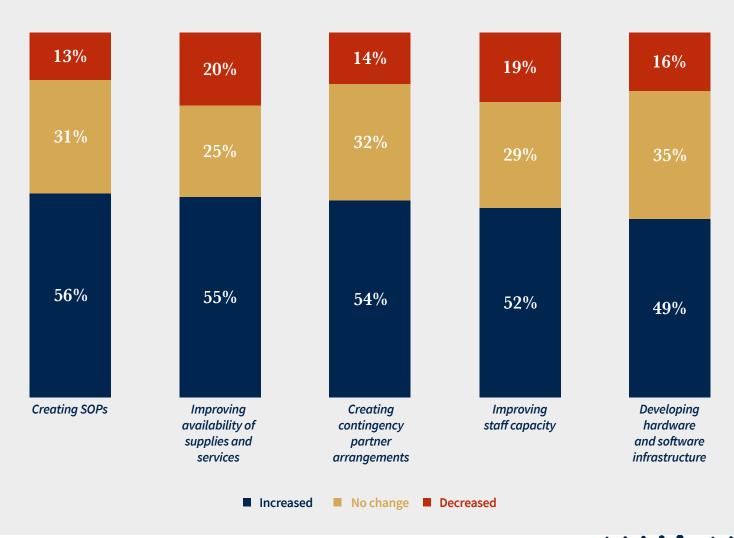


#### 3.1.2 Investment in Supply Chain Capabilities

The survey findings indicate that around half of participants, on average, viewed their organization as making investments in the preparedness of different supply chain capabilities, underscoring the significance of a diversified investment in preparedness. Based on the data, the most invested preparedness category was the creation of standard operating procedures (SOPs) in supply chains, which had the highest average percentage of respondents (56%) who indicated an increase in their investment between 2021 and 2022. Similarly, an average 55% and 54% of respondents suggested that their organization increased preparedness investment

on the availability of supplies and logistics services and contingency partner arrangements respectively in their supply chains between 2021 and 2022. Moreover, close to half of respondents on average indicated that their organization increased investment in staff capacity between 2021 and 2022. The least invested category relative to other mentioned strategies was hardware and software infrastructure development, which had an average 49% of respondents who increased their investment between 2021 and 2022. This category also showed a declining trend over time, as the percentage of respondents who increased their investment dropped from 61% in July to December 2021 to 45% in July to December 2022.

Figure 9: How respondents reported the level of investment in systemic supply chain capabilities improvements on average between the second half of 2021 and 2022





#### 3.2 Risk and Resilience

Survey data indicates that importation delays and security issues were the most critical and persistent risks to disrupt humanitarian supply chains between 2021 and 2022. However, respondents also perceived other risks across different survey periods such as insufficient funds, supply uncertainty, and supply failure highlighting the uncertain nature of humanitarian supply chains. Moreover, the data reveals three primary risk-mitigation strategies that were used by respondents between 2021 and 2022. These include implementing framework agreements with suppliers and contract renegotiations, establishing information and data-sharing mechanisms, and broadening the supplier base or prepositioning stocks. Finally, findings reveal that the respondents faced significant challenges in the resilience capabilities of their humanitarian supply chains across 2021 and 2022.

#### 3.2.1 Risks in Humanitarian Supply Chain

The data indicates that two risks, importation delays and security issues, were consistently perceived as critical between 2021 and 2022. However, several other risks were identified in one survey period and then were dropped in the next survey period during this timeframe. For instance, a notable risk in the first half of 2021 was insufficient funds; however, ceased to be one of the top concerns among respondents in later periods. Conversely, supply uncertainty emerged as a significant risk in the second half of 2021 and remained so in 2022. Finally, supply failure surfaced as a new risk only during the last period observed in 2022.

Figure 10: Top 3 risks that disrupted respondents' supply chain between 2021 and 2022.

	Jan-Jun 2021	Jul-Dec 2021	Jan-Jun 2022	Jul-Dec 2022
1.	Importation delays	Importation delays	Importation delays	Security issues
2.	Security	Securityissues	Security issues	Supply uncertainty
3.	Lack of funds	Supply uncertainty	Supply uncertainty	Supply failure

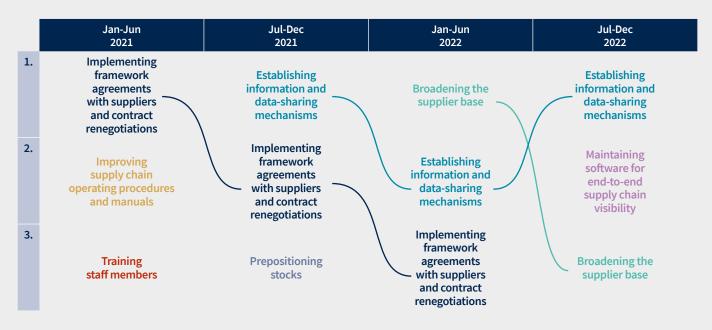


#### 3.2.2 Risk Mitigation Strategies

The data reveals respondents used three primary strategies between 2021 and 2022. The top overall risk-mitigation strategy was implementing framework agreements with suppliers and contract renegotiations, which appeared three times among the top strategies over the two years. This indicates that most respondents recognized the value and benefit of having long-term and flexible contracts with their suppliers. The second overall strategy was to establish information and data-sharing mechanisms, which became a top strategy in the second half of 2021 and 2022. This

strategy became more relevant and useful for respondents, as they faced more complex and dynamic situations that required better coordination. The third overall strategy across 2021 and 2022 was a tie between broadening the supplier base and prepositioning stocks, which appeared among the top three in the fourth and second periods, respectively. This means that these strategies were more specific and situational for respondents depending on the challenges and opportunities they faced in their operational settings.

Figure 11: Top 3 risk mitigation strategies respondents used in their supply chain between 2021 and 2022.



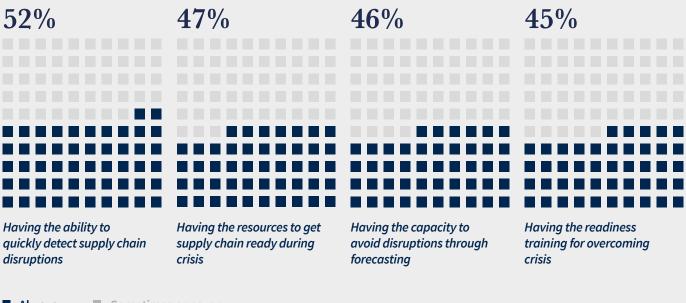


#### 3.2.3 Organizational Resilience

The findings reveal that respondents exhibited varying levels of resilience capabilities when managing supply chain disruptions. Between 2021 and 2022, on average, 52% of respondents reported that their organization's supply chain had the ability to quickly detect disruptions. Less than half of the respondents considered their organization to have the resources to get a supply chain ready during a crisis (average 47%), have the capacity to avoid disruptions through forecasting (average 46%), and have readiness training for overcoming crises (average 45%) between 2021 and 2022. Remarkably, an average 48% to 55% of the respondents indicated that they never or only sometimes had these resilience capabilities in their supply chains.



Figure 12: How respondents described the resilience of their supply chain on average between the second half of 2021 and 2022.



■ Always ■ Sometimes or never

# 4. Supply chain development

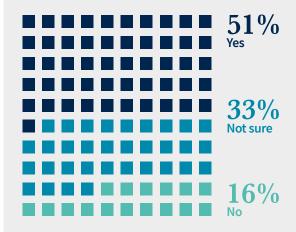
# 4.1 Environmental Sustainability and Localization

The survey data reveals variations in respondents' opinions regarding environmental sustainability and localization within their supply chain between 2021 and 2022. There was a perceived lack of effective communication for environmental sustainability policy on supply chain between 2021 and 2022. Moreover, most respondents viewed their organizational leaders as increasingly recognizing the significance of environmental sustainability in humanitarian supply chains over 2021 and 2022. However, the implementation of a rewarding system for sustainable practices lagged behind with a progressively fewer percentage of respondents consistently implementing it during this time frame. Furthermore, the data reveals that only less than half of the respondents believed their organization was pursuing sustainability practices in their supply chain between 2021 and 2022. Finally, the findings show that most respondents had a positive perception of localization efforts such as using local markets for procurement, but around half of respondents still reported that other aspects of localization such as supply chain capacity building to local partners were inadequate between 2021 and 2022.

#### 4.1.1 Environmental Sustainability Policy

The data show that only about half of respondents (average 51%) had an official environmental sustainability policy for their supply chain between July 2021 and 2022. This percentage varied from 43% to 59% during each survey period. The remaining respondents (average 49%) did not have or were unsure about having an official environmental sustainability policy for their supply chain.

Figure 13: Percentage of respondents who reported having an official environmental sustainability policy for their supply chain on average between the second half of 2021 and 2022.



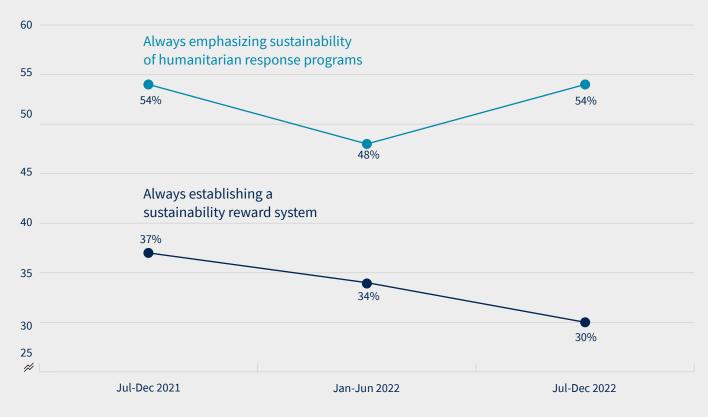


#### 4.1.2 Environmental Sustainability Leadership

Most respondents (average of 52%) indicated that their organizational leadership consistently emphasized the importance of environmental sustainability in humanitarian supply chains between the second half of 2021 and 2022. However, only an average 33% of respondents reported that a reward system for sustainability was always in place in their organization over the same time frame.



Figure 14: How respondents indicated the frequency of organizational leadership behaviors related to their supply chain sustainability in the second half of 2021 and 2022.



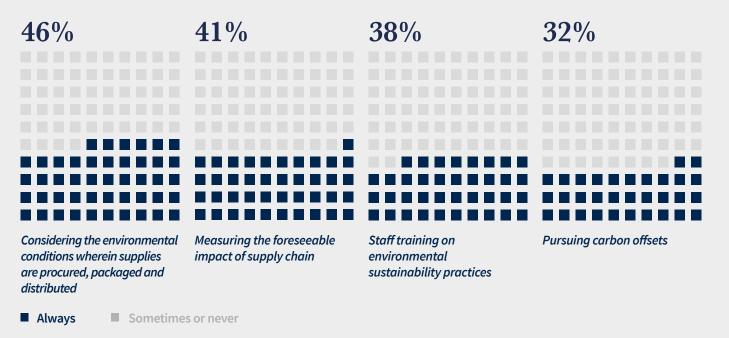


#### 4.1.3 Environmental Sustainability Practices

The data reveals that less than half of the respondents perceived their organization as pursuing environmental sustainability in their supply chain operations between 2021 and 2022. The most common practice among respondents was to consider environmental conditions in sourcing, packaging and distributing supplies, with an average 46% of the respondents always doing so between 2021 and 2022. Moreover, an average of 41% of respondents indicated that their organization always measured the

environmental impact of the supply chain. A relatively lower average percentage of respondents (38%) reported that their organization conducted staff training on environment sustainability. The least common practice among respondents was to pursue carbon offsets, with only average 32% of respondents always implementing it. Notably, a considerable average percentage (i.e., between 54% to 68%) of respondents reported that their organization never or only sometimes engaged in these five environmental sustainability practices between 2021 and 2022.

Figure 15: How respondents indicated the frequency of organizational practices to improve sustainability of their supply chain on average between 2021 and 2022.

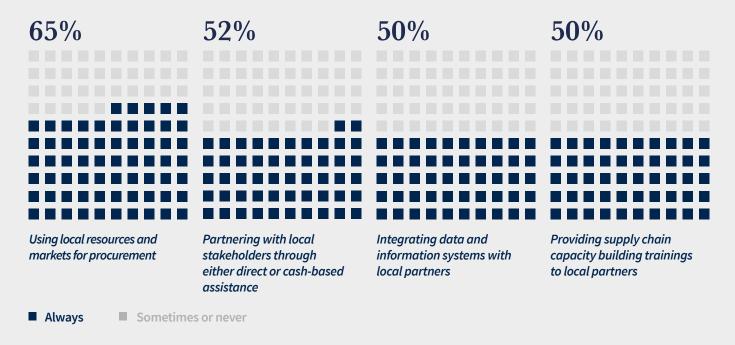


#### 4.1.4 Localization Practices

The findings show the different approaches taken by respondents to localize their supply chains over 2021 and 2022. The majority of respondents consistently utilized local resources and markets for procurement, with average 65% reporting this practice as always being implemented by their organization between 2021 and 2022. Conversely, only average percentage 35% stated that they never or only sometimes engaged in this practice in the same timeframe. Moreover, on average around half

of the participants (52%) indicated that their organization consistently partnered with local stakeholders through direct or cash-based assistance. Similarly, around average 50% reported implementing supply chain capacity building for and integrating data and information systems with local partners between 2021 and 2022. In particular, the integration of data and information systems with local partners experienced a significant reduction - dropping from an initial rate of 63% between July to December 2021 to merely 45% of respondents in July to December 2022.

Figure 16: How respondents indicated the frequency of organizational practices for localizing their supply chain on average between 2021 and 2022.





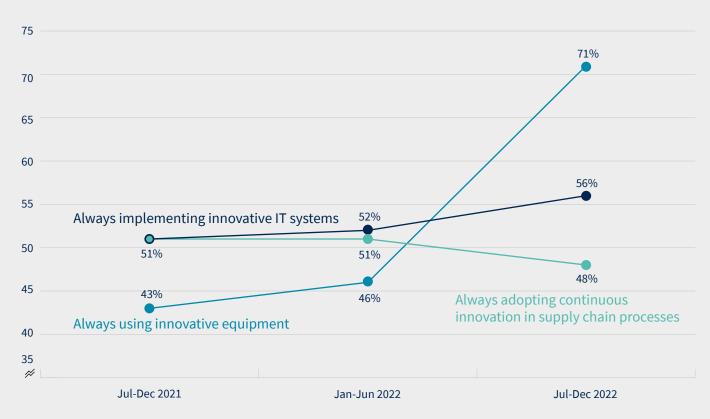
#### 4.2 Innovation and Technology

Survey findings show that respondents perceived progress in their organization around using innovative equipment and information systems. However, there was still significant room for improvement in adopting innovation practices in supply chain. Moreover, the findings show that information technology (IT) and instant communication emerged as the most consistently used technologies, emphasizing the crucial role played by IT systems in facilitating humanitarian supply chains between 2021 and 2022.

#### 4.2.1 Innovation

The percentage of respondents who always used innovative equipment such as vehicles, packages or other physical assets rose sharply from 43% in the second half of 2021 to 71% in the second half of 2022, whereas those who never used them dropped from 33% to 8% in the same timeframe. Similarly, on average, close to half of respondents (average of 52% and 50%) always implemented innovative information systems and adopted continuous innovation in supply chain processes respectively between 2021 and 2022.

Figure 17: How respondents indicated the frequency of organizational practices to bring innovation in their supply chain between 2021 and 2022.



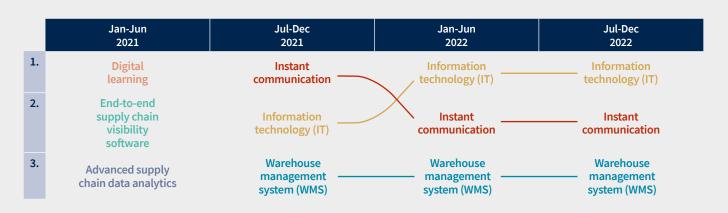


#### 4.2.2 Technology

According to the respondents, information technology (IT) was the primary technology employed from July 2021 to 2022. Instant communication and warehouse management systems (WMS) were among the top three technologies across three out of four survey periods. Digital learning and advanced supply chain data analytics were prominent in the first period of 2021, as the respondents needed to adapt to the new realities and challenges of the pandemic; however, they disappeared in the subsequent survey periods.



Figure 18: Top 3 technologies respondents used in their supply chain over 2021 and 2022.





#### 4.3 Collaboration and Resource Sharing

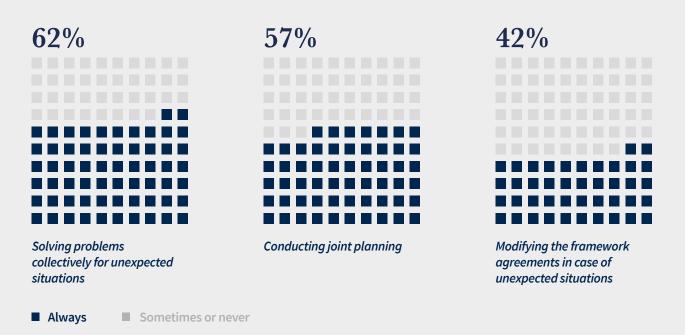
Based on the survey data, most respondents perceived that supply chain actors engaged in collaborative efforts between 2021 and 2022. The data also reveals that most respondents reported their organization as consistently sharing supply chain resources, but their responses indicated the potential for additional resource sharing.

#### 4.3.1 Collaboration

The majority of respondents reported consistent collaboration among actors and stakeholders in their supply chain when it came to collective problem solving (average 62% of respondents) and joint planning activities (average 57% of respondents). However, there was still room for improvement, particularly in terms of modifying framework agreements during unexpected situations. Only an average of 42% of respondents perceived the possibility of modifying framework agreements during unexpected situations, with a notable proportion (average 58%) suggesting that modifying framework agreements were never or only sometimes done.



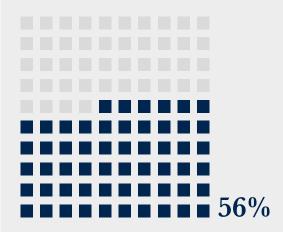
Figure 19: How respondents indicated the frequency of collaborative practices with stakeholders in their supply chain on average between the second half of 2021 and 2022.



#### 4.3.2 Resource Sharing

In 2021 and 2022, on average, more than half of respondent indicated that their organization always shared resources like procurement, transportation, and information systems. Only 44% indicated never or only sometimes doing so in the same time frame. This indicates tendency towards joint initiatives within supply chains but also a large potential for resource sharing improvement among supply chain actors.

Figure 20: How respondents indicated the frequency of resource sharing among stakeholders in their supply chain on average between 2021 and 2022.



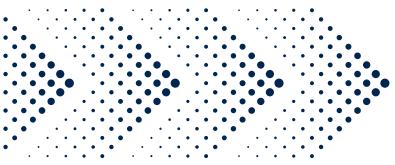
#### Resource sharing\*

\*Similar percentages were observed for respondents who indicated sharing procurement, transport and information systems.



■ Sometimes or never





# 5. Conclusions

The world is grappling with unprecedented challenges ranging from pandemics to conflicts and climate change. These hurdles pose grave threats to the lives and wellbeing of millions reliant on humanitarian aid. For aid to reach the affected populations, efficient, effective, sustainable, and resilient supply chains are paramount. The pressing questions are: how can this be achieved? How can lessons from the past be harnessed to adapt to the present and brace for the future? This report endeavors to answer these questions by delineating the trends in humanitarian supply chains during 2021 and 2022. Specifically, six pivotal trends with significant implications for decision-makers in the humanitarian sector are unveiled:

- Supply chain importance varied among humanitarian actors; some advanced while others lagged in funding, personnel empowerment, and program planning integration.
- 2. Timely and efficient aid delivery declined, significantly challenging humanitarian supply chain performance.
- 3. The most critical and persistent supply chain risks were import delays and security issues.
- 4. Perceived inaction toward environmental sustainability undermined advocacy efforts.
- 5. Significant innovation potential exists within humanitarian supply chains, especially in developing and integrating innovative equipment and systems.
- 6. Collaboration and resource-sharing among humanitarian supply chain actors fostered collective problem-solving and efficiency.

This conclusion underscores the indispensable role of robust and agile supply chains in the humanitarian sector, accentuating the need for continuous improvement and innovation to serve those in need amidst a complex, better, and ever-evolving global landscape.

Drawing from diverse respondent groups, these trends guide decision-makers to identify best practices, learn from past experiences, and benchmark their organization's performance against industry standards. They are not only informative but also actionable. Consequently, we have formulated six key recommendations providing evidence-based guidance for decision-makers to enhance their organization's supply chain, better preparing them to tackle upcoming challenges and opportunities. These recommendations include:

# 1. Supply Chain Recognition: Bolster strategic role and visibility by:

Amplifying representation of supply chain functions in senior executive management.

Considering supply chain during the project elaboration/proposal-writing phase.

Advocating for a higher allocation of funds for the supply chain budget.

# 2. Supply Chain Measurement: Identify factors causing aid delivery gaps by:

Implementing systems to collect and monitor efficiency and effectiveness metrics.

Utilizing predictive data analytics to optimize cost and lead times in procurement and transport planning.

### 3. Supply Chain Risk Management: Enhance resilience by:

Conducting a risk analysis to identify and prioritize the sources and impacts of supply chain risks.

Developing a risk management practice with mitigation strategies such as framework agreements with suppliers, a diversified supplier pool, and collaborative mechanisms among supply chain stakeholders.

# 4. Supply Chain Sustainability: Align actions with advocacy efforts for environmental sustainability by:

Proactively integrating environmental sustainability practices into supply chain processes, such as procurement criteria, transport modes, or packaging design.

# 5. Supply Chain Innovation: Cultivate a culture of innovation among the workforce by:

Integrating innovative equipment and information systems into supply chain processes.

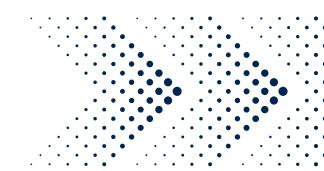
Training staff to effectively utilize digital technologies like IT systems.

## 6. Supply Chain Collaboration: Improve efficiency and curtail duplication of efforts by:

Enabling and fostering information, service, and resource-sharing initiatives.

Establishing long-term agreements and integrated supply chain solutions with commercial partners.

In summary, the trends and recommendations in this report sketch the path forward, spotlighting both the pitfalls and potential of our collective efforts in the humanitarian sector. These findings beckon every stakeholder within the sector to evolve, innovate, and collaborate. By leveraging past insights and the promise of the future, we can ensure that life-saving aid reaches those in dire need efficiently and sustainably. We thus encourage all individuals involved in the humanitarian supply chain to share feedback on these trends and recommendations and join us in the upcoming 2023 global survey. This survey will build on these findings and investigate their implications for the sector. We also extend our gratitude to all respondents and partners who supported the previous four rounds of the global survey between 2021-2022. Together, we can redefine what is possible in humanitarian supply chains, impacting lives worldwide.







#### **Kühne Logistics University**

Grosser Grasbrook 17 20457 Hamburg, Germany

Tel. +49 40 328707-0

info@the-klu.org

www.the-klu.org/chord



#### **HELP Logistics AG**

Dorfstrasse 50 CH–8834 Schindellegi

Tel. +41 44 786 96 70

information-help@kuehne-foundation.org

www.help-logistics.org