CREATING RESILIENT SYSTEMS: GREENING THE HUMANITARIAN SUPPLY CHAIN WHILST PROMOTING LOCALISATION

LESSONS FROM RECENT CRISIS RESPONSES FROM 15 HUMANITARIAN ORGANISATIONS

Department of International Development

MARCH 2025

Acknowledgements

The authors would like to thank our client, the **Disasters Emergency Committee** (DEC), for the opportunity to produce this report. In particular, we appreciate the support of our focal point, Frances Crowley, whose insights and direction were invaluable throughout the research process. We also extend our gratitude to our mentor at the London School of Economics and Political Science, Stephanie Levy, for her guidance and constructive feedback.

Additionally, we are grateful to all DEC member organisations and interviewees who generously gave their time to share their professional insights and experiences. Their honest insights and critical reflections form the foundation of this report.

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Executive Summary

The rising demand for humanitarian assistance, exacerbated by the climate crisis, and the sector's resource constraints - caused by competing global priorities and economic pressures - are forcing humanitarian organisations to rethink their operational models. Two critical agendas have emerged as essential responses: localising humanitarian action to empower crisis-affected communities and integrating environmental sustainability to reduce the sector's carbon footprint. With humanitarian supply chains comprising 80% of disaster relief operations and generating over half of the sector's emissions (Van Wassenhove, 2006:475; Brangeon, 2023:6), understanding how these agendas intersect within supply chains has become vital for organisational effectiveness, system resilience and global climate responsibility. This report examines this intersection by answering two overarching questions:

- How do the localisation and environmental sustainability agendas align or conflict in humanitarian supply chain strategies?
- What are the best practices for balancing environmental sustainability and localisation in humanitarian supply chains and responses?

To explore these questions, the study adopted a qualitative methodology combining desk-based research, interviews with fourteen key practitioners – including DEC members and external stakeholders – and a detailed analysis of five DEC humanitarian appeals: the Afghanistan Crisis, Pakistan Floods, Ukraine, the Middle East, and the Türkiye-Syria Earthquake.

KEY FINDINGS

The study reveals promising synergies and complex operational tensions in three leading practices implemented by DEC members: local procurement, cash and voucher assistance, and green energy solutions.

Local procurement emerged as the most promising convergence point, simultaneously reducing transportation emissions and strengthening local economies. Across the case studies, organisations that successfully implemented local sourcing strategies achieved measurable reductions in carbon footprint while building community resilience. However, success proved highly context-dependent, with local suppliers sometimes lacking capacity or resources to meet environmental standards, forcing organisations to source from international suppliers to maintain sustainability commitments. Capacity-sharing initiatives and ongoing market assessments are key strategies for improving local supplier readiness and ensuring they meet environmental standards.

Cash and voucher assistance (CVA) demonstrated significant potential for advancing both agendas by enabling crisis-affected populations to make purchasing decisions locally, reducing waste from in-kind aid, and minimising international transport emissions. This approach strengthened local markets while providing recipients with dignity and choice. Yet measuring environmental impact remained challenging, and its success was limited to contexts with strong local market structures. Concerns emerged about recipients potentially purchasing environmentally harmful goods, highlighting the need for conditional CVA frameworks that promote sustainable purchasing in appropriate contexts. Successful operationalisation remains context-dependent and necessitates comprehensive market assessments to ensure that local markets are stable and capable of meeting demand.

Sustainable energy solutions, particularly solar installations, proved effective across multiple DEC responses in improving energy security while reducing fossil fuel dependence. These interventions strengthened community resilience by providing independence from volatile centralised energy supply chains. However, implementation faced significant barriers, including high upfront costs, maintenance challenges, and security risks, underscoring the critical need for local capacity investment in renewable energy system management.

Sustainable energy solutions, such as solar power, were widely adopted across several DEC responses. Solar installations improved energy security and reduced reliance on fossil fuels across several humanitarian programmes. Specifically, it strengthened communities' resilience by granting them independence from centralised, long and volatile energy supply chains. Despite these benefits, implementing solar energy solutions faced practical challenges, including high upfront costs, maintenance issues, and security risks. In addition, to improve sustainability outcomes, their implementation requires investing in local capacity and skills to support the installation, repair, and maintenance of renewable energy systems.

Systemic Barriers and Implementation Challenges

Despite these promising practices, the study revealed entrenched systemic barriers that limit effective integration of both agendas. The inherent urgency of humanitarian response creates institutional pressure to prioritise speed over environmental considerations, while rigid donor funding structures constrain flexibility for local procurement and environmental investments. Short-term funding models compound these challenges by preventing longer-term capacity building and sustainability investments essential for meaningful localisation. Most critically, practitioners were concerned about imposing sustainability requirements on crisis-affected communities with minimal carbon footprints. This tension reinforces the urgent need for climate justice approaches that place primary responsibility on major carbon contributors while supporting vulnerable communities in building resilient, sustainable systems.

STRATEGIC IMPLICATIONS & RECOMMENDATIONS

The research demonstrates that environmental sustainability and localisation are not inherently conflicting agendas but require deliberate, context-sensitive integration strategies. Success depends on comprehensive market assessments, sustained capacity-sharing investments, and funding mechanisms that support longer-term sustainability goals alongside immediate humanitarian needs.

To address some of these challenges, the report provides a series of **recommendations** to DEC members and the wider humanitarian sector:

- **Align donor strategies, funding, and reporting mechanisms** to reduce administrative burdens and enable more effective implementation of sustainable and localised practices.
- Increase **multi-year funding** to support long-term sustainability efforts.
- Prioritise **capacity-sharing** over traditional capacity-building.
- Enhance **coordination** and **knowledge-sharing** among humanitarian actors.
- Invest in improved **market assessment tools** and **technical expertise**.
- Support **locally led energy solutions** and training in the **maintenance and adaptation of solar systems**

While sustainability and localisation are not standalone solutions for achieving a fully resilient Humanitarian Supply Chain, effectively integrating them can enhance operational efficiency, reduce environmental harm, and empower local communities. Humanitarian organisations must navigate these trade-offs carefully, ensuring their strategies are context-sensitive and impactful.

Acronyms

AAH: Action Against Hunger

AD: ActionAid

BRC: British Red Cross

CAID: Christian Aid

CVA: Cash and Voucher Assistance

CW: Concern Worldwide

DEC: Disasters Emergency Committee

ECHO: European Civil Protection and Humanitarian Aid Operations

HSC: Humanitarian Supply Chain

IRC: International Rescue Committee

IRW: Islamic Relief Worldwide

SHSC: Sustainable Humanitarian Supply Chain

ICRC: International Committee of the Red Cross

IFRC: International Federation of the Red Cross

INGO: International Non-Government Organisation

NEAT+: Nexus Environment Assessment Tool

NGO: Non-Governmental Organisation

NLA: National and Local Actors

UN: United Nations

UNEP: United Nations Environment Programme

WVI: World Vision International

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01. INTRODUCTION

Photo Credit: Paul Assaker/CARE (Lebanon)

1.1 Background

The number of people in need of humanitarian assistance and protection is rising and reaching around 305 million in 2025 (OCHA, 2024b). Climate change and the heightened frequency of extreme weather events are some of the primary drivers of this surge in humanitarian needs (Norwegian Red Cross, 2019). These events often overlap with other factors, namely conflicts, infectious disease outbreaks and economic dynamics, generating complex humanitarian emergencies. The increasing prevalence of protracted and complex emergencies, combined with a severe funding shortfall, has placed immense strain on the humanitarian sector, challenging its ability to respond effectively (UN, 2024). At the same time, humanitarian organisations are striving to reduce their environmental footprint throughout all phases of response, from emergency relief to recovery, in collaboration with donors and other stakeholders (ECHO, 2020). In fact, the sector can have short- or long-term adverse effects on the environment that can result directly from humanitarian operations and day-to-day activities or indirectly through humanitarian suppliers. The environmental impacts can be at local levels, such as deforestation, and globally, such as CO2 emissions and exacerbate risk and vulnerability in the communities they aim to support (Brangeon & Crowley, 2020). In line with the "Do No Harm"[1] principle, humanitarian organisations have a collective responsibility to adequately address the environmental dimensions of emergencies.

To effectively address these growing challenges, humanitarian organisations have increasingly focused on enhancing the efficiency and sustainability of humanitarian supply chains (HSCs). HSCs are complex systems that encompass the entire process of sourcing, producing, transporting, storing, and distributing humanitarian goods and services in emergencies (Balcik, 2010). Given their scale, complexity and critical role in relief efforts, HSCs account for a significant portion of the sector's spending and environmental footprint (Brangeon, 2023). As such, they present multiple and critical entry points for integrating green[2] and localised practices. Localisation aims to shift power, resources, and decision-making closer to crisis-affected communities by strengthening local supply networks and engaging local actors in aid delivery (Anjomshoae et al., 2023). Integrating localisation within HSCs can enable faster, more resilient and tailored humanitarian relief efforts (Frennesson et al., 2022; Matopoulos et al., 2014).

[1] The Do-No-Harm principle refers to the commitment to prevent and mitigate any negative impact that humanitarian operations may have on beneficiaries. (UNHCR, 2025)

[2] In this report, the terms "greening" and "green practices" refer to efforts aimed at reducing the environmental footprint of humanitarian operations.

Localisation is also a key approach to humanitarian sustainability through the application of local, traditional and indigenous knowledge on mitigation and adaptation measures, including nature-based solutions (Brangeon & Crowley, 2020). Despite these potential benefits, implementing green and localised practices remains inherently complex. This complexity stems from a range of barriers, including the challenging nature of the emergency environments, conflicting priorities, and organisations' diverse operational frameworks.

[2]

1.2 Research Questions

The overarching research questions addressed by this paper are the following:

RQ1: How do the localisation and environmental sustainability agendas align or conflict in humanitarian supply chain strategies?
RQ2: What are the best practices for balancing environmental sustainability and localisation in humanitarian supply chains and responses?

02. RESEARCH DESIGN

Photo Credit: Care International

2.1 Methodology

This study employs a qualitative approach that combines a mix of desk-based research, including a review of DEC appeal documents, external academic literature, and key informant interviews with representatives from both DEC Members and external humanitarian organisations. Specifically, the research approach includes:

- A comprehensive **literature review** of existing academic research and grey literature on the humanitarian supply chain, environmentally sustainable practices and localisation in the humanitarian sector.
- An analysis of **DEC members' reports** on five recent humanitarian appeals: DEC Afghanistan Crisis Appeal, DEC Pakistan Floods Appeal, DEC Ukraine Humanitarian Appeal, DEC Middle East Humanitarian Appeal, and DEC Turkey-Syria Earthquake Appeal.
- An evaluation of fourteen **informant interviews** with relevant practitioners (see Tables 1 and 2), which were key to complement the literature review and narrative report analysis.

Data collection and analysis are conducted in three interconnected steps as outlined in *Figure 1*, *Tables 1* and *2*.

Figure 1: Sources of Empirical Material

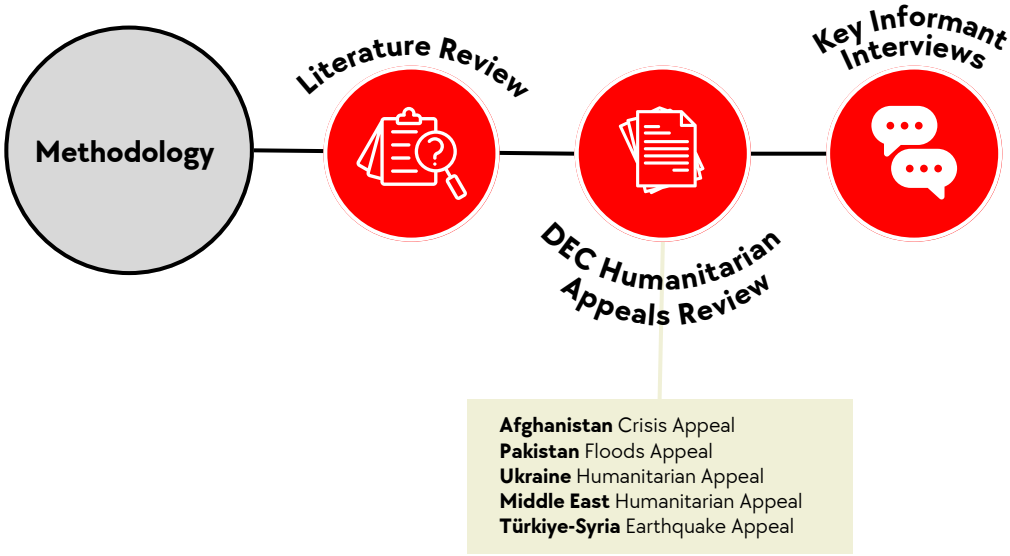


Table 1: Respondents in this Study n=14

S/N	Organisation Name	Position of Key Informant
1	Action Against Hunger	Logistics Manager
2	Age International	Response Manager
3	Age International	Global Operations Manager
4	British Red Cross	Senior Project Manager
5	British Red Cross	Environmental Sustainability Officer
6	Care International	Humanitarian Supply Chain Manager
7	Christian Aid	Global Humanitarian Manager
8	Concern Worldwide	Envrionmental Sustainability Specialist
9	Independent Consultant	Senior Emergency Shelter Advisor
10	Oxfam	Humanitarian Lead
11	Tearfund	Senior Manager, Resource Development & External Engagement
12	UNDP	Head of Regional Office
13	World Vision International	MEAL Advisor Fragile States and Emergency Response
14	World Vision International	Technical Director, Emergency Logistics and Prepositioning

Table 2: Organisations in this Study

Total Participants	DEC Members (out of 15)	External Organisations
14	**9**	**2**

2.2 Study Limitations

The report considers the following limitations:

(1) Representation of DEC Member Organisations: Due to time constraints, not all DEC member organisations were able to participate in the interview process, which may have resulted in some perspectives being underrepresented.

(2) Transferability and Generalisability: The sample size is not numerically significant enough to represent the humanitarian sector as a whole, limiting the transferability and generalisability of the findings.

(3) Location of Key Informants: The majority of interviewees were based at headquarters (12), with only a small number representing country-level perspectives (2). This imbalance may have limited insights into the practical implementation of sustainability and localisation practices in field operations.

(4) Researcher positionality: All three research students have predominantly Western backgrounds, potentially limiting the interpretation of non-Western perspectives and practices.

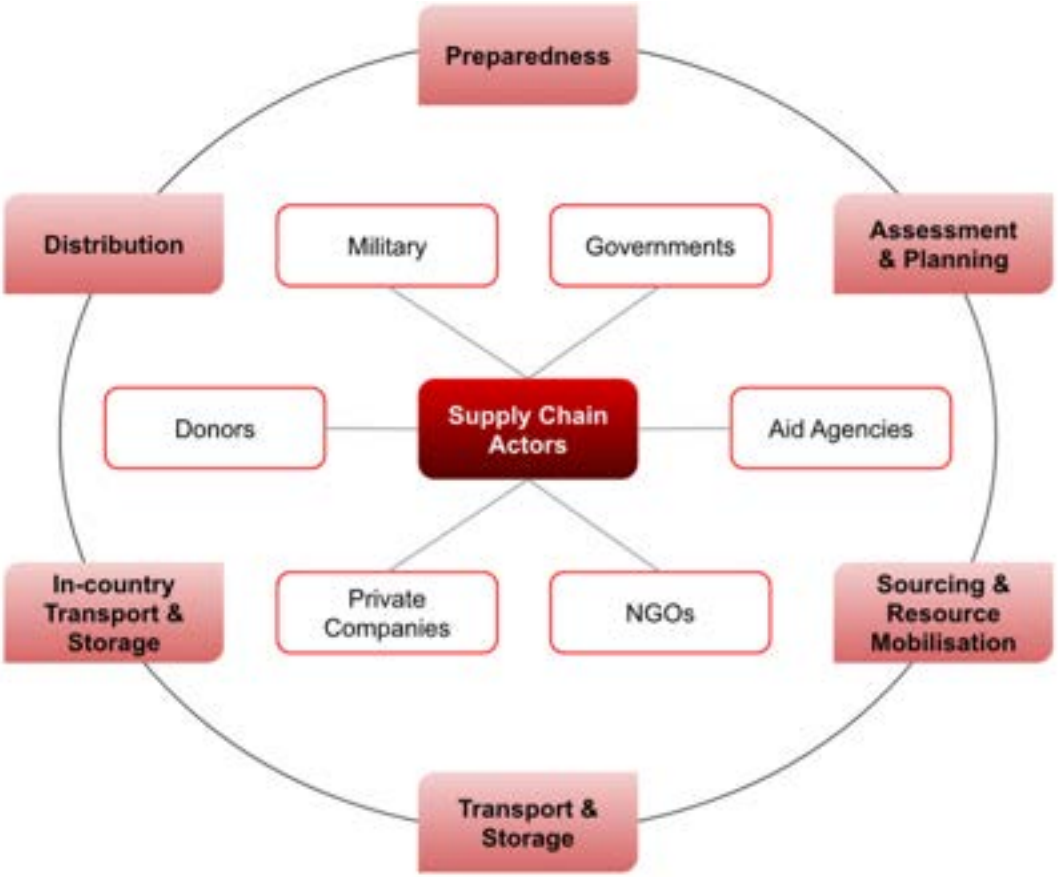
03. ANALYSIS OF SUSTAINABLE HUMANITARIAN SUPPLY CHAINS AND LOCALISATION

Photo Credit: Love-Lis Liljeström (Sudan)

3.1 Overview of Humanitarian Supply Chains

Over the past decades, academic research on HSCs has expanded significantly, with scholars and practitioners examining their role in mitigating risk and streamlining disaster relief operations across the globe (Behl, A. & Dutta, P., 2019; Jahre, et al., 2016). HSCs are complex systems designed to deliver essential goods and services to populations affected by crises (Balcik, 2010). As shown in *Figure 2*, they encompass a range of activities, including procurement, transportation, warehousing, and the distribution of supplies (Van Wassenhove, 2006). Unlike commercial supply chains, HSCs are guided by non-profit motives, namely the need for rapid and life-saving relief, and must coordinate with a diverse network of actors across material, information, and financial flows (Haavisto & Kovács, 2014). Due to their reactive and dynamic nature, HSCs require strategic planning and adaptability throughout the three key phases of a typical crisis response: pre-disaster (preparedness), operations (emergency and sustaining relief), and postdisaster (recovery and rebuild) (Bhattacharya, et al., 2014). Effective coordination and collaboration across these stages are critical for timely and appropriate aid delivery (Dubey & Gunasekaran, 2016).

Figure 2: Humanitarian Supply Chain Network



3.2 Components of Sustainable Humanitarian Supply Chains

The growing urgency of climate change, resource scarcity, and environmental degradation has prompted increasing attention to the environmental impact of HSCs. While HSCs are designed to deliver life-saving aid rapidly, their logistical operations, comprising up to 80% of disaster response activities (Van Wassenhove, 2006; Tomasini & Van Wassenhove, 2009), can generate significant environmental consequences, such as waste generation (Haavisto & Kovács, 2014). Similarly, supply chain management alone can account for up to 50% of a humanitarian organisation's total carbon footprint (Brangeon, 2023; Climate Action Accelerator n.d). Consequently, integrating sustainability into HSC practices has become a critical priority for researchers, practitioners, and policymakers. A sustainable HSC seeks to minimise its environmental footprint while maintaining and/or improving operational effectiveness, economic efficiency and resilience in delivering humanitarian aid. Ultimately, this involves adopting strategies that balance environmental considerations with the urgent demands of crisis response.

Despite growing efforts, achieving sustainable HSCs presents significant challenges due to the complex and volatile environments in which humanitarian operations are conducted. HSCs can face the unpredictability of demand, lack of resources (capital and human), and poor infrastructure (Kovács & Sigala, 2021; Tomasini & Van Wassenhove, 2009). Urgency frequently drives humanitarian organisations to prioritise speed over environmental considerations creating a fundamental tension between the immediate need for rapid crisis response and the longer-term goal of achieving sustainable HSC (Nawazish, et al., 2024; Eng-Larsson et al., 2011; Kovács & Spens, 2011). This tension is exacerbated by the lack of coordination among the various supply chain actors and stakeholders involved, all of whom have divergent cultures, mandates, capacities and interests. These differences can include the geopolitical agendas of national governments, donors' focus on economic efficiency, beneficiaries' need for speedy and sufficient supplies, and the diverse organisational characteristics of humanitarian organisations (Tomasini & Van Wassenhove, 2009). Moreover, the concept of sustainability within HSCs remains ambiguous, as widely accepted definitions and guidelines are still lacking (Anjomshoae, et al., 2023). This absence of clear standards complicates efforts to integrate sustainability into HSC practices, making it challenging for organisations to align strategies, set measurable goals, and implement consistent environmental initiatives.

HSCs are also directly and indirectly exposed to external shocks, such as natural hazards and financial crises (Kovács & Sigala, 2021). Inefficiencies or disruptions within supply chains can further complicate or hinder relief operations and cause or contribute to a humanitarian crisis (McLachlin, et al., 2009).

For instance, the coronavirus disease 2019 (COVID-19) pandemic had profound implications for the HSCs by causing a global and multi-layered supply chain disruption. Relief organisations faced challenges procuring and delivering supplies and moving international staff into vulnerable areas, especially in conflict zones, refugee camps, and remote areas where infrastructure was weak (Brubaker, Day, & Huvé, 2021). As a result, inequalities deepened in terms of access to service and assistance, along with an over-reliance on local staff or local partners (Brubaker, Day, & Huvé, 2021). However, this shifting in responsibilities towards national and local partners was often conducted without providing them the necessary funding or preparation. This crisis underscored that while pre-positioning relief is a key mitigation strategy, it is not enough to respond to global supply chain disruptions alone (Kovács & Sigala, 2021). It also exposed humanitarian organisations' failure to meet the Grand Bargain commitments and the importance of investing in local and national actors to achieve a more resilient and sustainable HSC. Climate change will increase the frequency and intensity of natural hazards and supply chain disruptions thereby, it has become even more critical to strengthen the capacity of local actors and the robustness of local supply chains.

To address these challenges, a growing number of both practitioner-oriented frameworks and theoretical contributions have emerged, all aimed at enhancing sustainable practices in HSCs. A non-exhaustive overview is provided in Table 4. These contributions provide practical guidance and conceptual frameworks to help humanitarian actors integrate environmental considerations into their operations. For example, in its *Green Logistics Guide*, Brangeon (2023) outlines five broad areas humanitarian organisations should consider when operationalising greener supply chains (adapted in Table 3). Similarly, tools, such as the Nexus Environmental Assessment Tool (NEAT+), have been developed to help humanitarian actors assess environmental risks in their operations (EEC, 2024). In addition, organisations are increasingly monitoring and assessing the environmental impacts of their activities by tracking specific indicators and highlighting areas for improvement. For instance, the United Nations Environmental Programme (UNEP) produces an annual report on the UN system's environmental footprint and ongoing reduction efforts (UNEP, 2024). This analysis contributes to greater transparency and accountability within the humanitarian sector, encouraging organisations to adopt more sustainable practices.

To support these frameworks, initiatives like WREC (Waste Reduction for Emergency Response and Crisis) have been created to foster knowledge sharing and collaboration within the sector, encouraging dialogue, design and implementation of sustainable practices. However, achieving meaningful progress in reducing the environmental impact associated with HSC operations requires collaboration beyond the humanitarian sector alone, involving donors, private-sector stakeholders, and governments (Logistics Cluster, 2024).

Table 3: Characteristics of Green Supply Chains (Adapted from IFRC, 2023:5)

Procurement	The selection of durable, repairable, and reusable items, integrating environmental considerations into contracts and specifications, and engaging suppliers on sustainability practices to reduce waste and carbon footprints.
Supply Chain Planning	Optimising logistics strategies by accepting donations based on specific needs and quality standards, closely monitoring stocks to prevent waste, and improving forecasting to reduce airfreight and reliance on carbon-intensive methods.
Travel and Fleet	Transitioning to eco-friendly transportation options, training staff in eco-driving practices, using fuel-efficient vehicles and minimizing air travel.
Waste	Ensuring proper collection and management of waste, reducing the use of single-use packaging and items, and partnering with local organiszations to promote reuse and recycling.
Premises	Using energy-efficient practices, such as LED lighting, solar energy, and reducing water and electricity usage in facilities.

Table 4: Frameworks for Sustainable Practices in Humanitarian Supply Chains - A Selected List of Practitioner and Academic Contributions

 Practitioner Contributions	The Nexus Environmental Assessment Tool (NEAT+)	Environmental Emergencies Center (2024). Developed by the UNEP/OCHA Joint Environment Unit, USAID, UNHCR, NRC, IUCN, WWF and other partners
	Call to Action: A Supply Chain Framework for the Future: Reducing the Carbon Footprint of Humanitarian Aid	Logistics Cluster (2023)
	ICRC: Carbon Accounting Tool – Technical Note	Eydieu, P. & Barreyre, J. (2022)
	Climate and Environment Charter for Humanitarian Organizations	Climate and Environment Charter (2021)
	Environmental Footprint of Humanitarian Assistance – Scoping Review	Brangeon, S. & Crowley, F. (2020)
 Academic Contributions	To Greener Pastures: An Action Research Study on the Environmental Sustainability of Humanitarian Supply Chains	Zarei, M. H., Carrasco-Gallego, R., & Ronchi, S. (2019)
	Sustainable Humanitarian Supply Chain Management – Exploring New Theory	Kunz, N. & Gold, S. (2017)
	Key Focus Areas in Emergency Relief: A Conceptual Framework Aligned with Triple Bottom Line	Meduri, Y. & Ahmed, F. A. (2016)
	The Sustainable Humanitarian Supply Chain Design: Agility, Adaptability and Alignment	Dubey, R. & Gunasekaran, A. (2016)

3.3 The Localisation Agenda

In recent years, there has been a growing push for greater inclusion of local actors within the humanitarian sector to improve humanitarian relief operations' effectiveness, sustainability and inclusivity. The localisation agenda is at the core of the current reform efforts. While there is some divergence in the interpretation of localisation, it can be described as *'a process of recognising, respecting and strengthening the leadership by local authorities and the capacity of local civil society in humanitarian action'* (Fabre, 2017). In the context of HSC, localisation entails strengthening the role of local production and suppliers, logistics services, and communities in aid delivery (Besiou, Pedraza-Martinez, & Van Wassenhove, 2021). It involves key areas, including "*financing, partnership, capacity strengthening, coordination, recruitment and communication*" (Roepstorff, K., 2020).

Localisation aims to reshape the international humanitarian system, currently considered a top-down and Western-driven structure centred around multilateral organisations and international NGOs rather than national and local actors (Roepstorff, K., 2020). However, national and local actors are often the first responders when disasters occur and play a key role during humanitarian operations due to their local knowledge, networks, and communication skills (Barakat & Milton, 2020). At the 2016 World Humanitarian Summit, localisation gained momentum with the Grand Bargain, in which humanitarian and development partners pledged to allocate at least 25 per cent of funding directly to local and national responders by 2020 (Frennesson et al., 2022). The COVID-19 pandemic accelerated the revision of the humanitarian system by exposing its weaknesses and the importance of local and national actors.

Despite this growing consensus, the implementation of localisation faces several barriers. First, the absence of a cohesive understanding of key conceptual questions, particularly the definition of local actors, risks reinforcing existing power dynamics and exclusionary practices within the sector (Wall & Hedlund, 2016; Roepstorff, 2020). Moreover, this ambiguity contributes to the lack of strategic clarity, with some interpreting localisation as decentralisation rather than a more transformative approach. This, in turn, results in inconsistency and ambiguity in its implementation, further hindering efforts to achieve meaningful progress (Frennesson et. al, 2020). Barriers to implementing localisation efforts also include donors' perception of risk, favouring larger international humanitarian organisations seen as more capable and 'trusted' than national and local actors (Barbelet, 2021). Ultimately, the lack of trust, bureaucratic requirements, structural limitations and an overly complex chain of intermediaries hinder national and local actors' access to funding (Barbelet, 2021).

The rigid funding structures, hierarchical partnerships, and exclusionary coordination mechanisms perpetuate power imbalances that disadvantage national and local actors (Mulder, 2023). These power dynamics are rooted in the colonial legacies embedded in the humanitarian system and, if left unaddressed, can perpetuate neocolonial tendencies among humanitarian organisations (Peace Direct, 2021; Khoury & Scott, 2024; Robillard et al., 2020). However, accurate localisation requires a transfer of power, granting local and national responders more autonomy to define priorities and strategies in humanitarian response (Robillard et al., 2020). A recent study commissioned by the DEC highlighted this by emphasising the need for **transformational rather than transactional partnerships** (Wijewickrama et al., 2024). When assessing three recent DEC humanitarian appeals, the study found that while DEC members operationalise partnerships differently and, to a higher degree, do emphasise equitable partnerships and the need to support local leadership, challenges remain. Specifically, it noted that some partnerships' power imbalances affect decision-making, resource allocation, and programmatic control (Wijewickrama et al., 2024).

3.4 Localisation and Sustainability Nexus in Humanitarian Supply Chains

The nexus between localisation and environmental sustainability practices in humanitarian operations remains understudied. Several authors have highlighted some overlaps, particularly in areas such as local market empowerment through local procurement and cash assistance, support for agroecology and local production, and community engagement (Anjomshoae, 2023; Frennesson et al., 2022; CHORDS, 2024).

Local procurement can stimulate local markets and shorten supply chains, thereby reducing the time, costs, and carbon footprint associated with aid delivery (Frennesson et al., 2022). By sourcing goods and services from local markets, humanitarian organisations can bypass complex import processes, avoid customs delays, and minimise transportation expenses. Additionally, engaging local suppliers reduces the carbon footprint associated with long-distance transportation and expatriate personnel travel (Frennesson et al., 2022). Similarly, **Cash and Voucher Assistance** (CVA) can reduce logistical challenges and the environmental footprint of HSC by cost-efficiently empowering affected populations to meet their needs through local markets (CHORDS, 2024). About 5-10% of imported in-kind aid is deemed highly useful, while 60% is ineffective and overburdens local solid waste disposal systems (Muntasir et al., 2024). CVA can allow for more context-appropriate relief items, which can help reduce the volume of discarded supplies and the pressure on local waste management systems (Zarei et al., 2019).

In addition, they contribute to stimulating and strengthening local economies by directing funds to local businesses and suppliers and reducing dependence on external aid structures (Harpring et al., 2020; Corbett et al., 2022). Humanitarian organisations also use CVAs to promote more sustainable consumption by offering vouchers limited to eco-friendly products, such as solar-powered relief items (Anjomshae, 2023).

Despite this, contextual factors can limit the use and effectiveness of these two practices (Frennesson et al., 2021). For instance, while local procurement offers potential environmental benefits, it can also result in higher environmental impacts if local suppliers engage in unsustainable manufacturing practices or source products from third parties with environmentally harmful practices (Anjomshoae et al., 2023). In such cases, organisations should consider local suppliers' energy sources and emissions to asses whether it offsets the environmental benefits achieved by reducing the transportation of imported relief items. Similarly, CVA programmes' sustainability impact is difficult to measure, as individuals' consumption patterns are hard to trace (Anjomshoae et al., 2023). In addition, scholars have also raised ethical concerns about shifting the responsibility for environmentally friendly purchases onto crisis-affected individuals rather than HOs (Brangeon & Crowley, 2020).

Though not always directly linked to localisation and sustainability agendas, **agroecology** and **local food production** are relevant to this nexus. Agroecology is "*an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems*" (FAO, n.d.). Agroecology strengthens connections between producers and consumers through localised, transparent, and equitable distribution networks, ultimately shortening food supply chains (UNDP, 2025:2). By reducing reliance on long, industrial supply chains, agroecology supports the 'localisation' of food systems, enhancing community control over food prices, access, and quality (UNDP, 2025:2). This approach also increases the resilience of food supply chains to external shocks, including those related to climate change, while fostering greater food sovereignty in local communities (UNDP, 2025:2). As such, agroecology is increasingly presented as a model that offers both social and environmental benefits in transforming food and agricultural systems (UNDP, 2025:2), becoming a "new paradigm" for food and farming (EESC, 2019).

Finally, **community** and **local actor engagement** in HSC strategies can increase the resilience and adaptability of supply chains. Integrating local humanitarian and operational knowledge in all stages of planning and logistics is paramount to ensure contextualised humanitarian responses (Piquard, 2021; Hurdin & Nirono, 2024). Humanitarian aid determined by international actors and delivered from strictly external supply chains may not meet the needs or priorities of affected communities (Kelly, 2024). This misalignment can ultimately lead to surplus relief items that go unused and contribute to waste, particularly when affected communities have no means for proper disposal (Corbett et al., 2022). In contrast, integrating local (and/or) indigenous knowledge[3] and actively engaging communities can improve the relevance and sustainability of aid, shorten supply chains, and strengthen resilience (Kelly, 2024; Kom & Nethengwe, 2024).

[3] Local, indigenous or traditional knowledge is the accumulated, experience-based wisdom of a community embedded in social practices and adapted to local culture and environment (FAO, 2004)

04. BRIDGING THE AGENDAS: LESSONS FROM RECENT HUMANITARIAN RESPONSES

Photo Credit: Islam Mardini (Syria)

This section expands on existing academic research by analysing green and localisation practices adopted by DEC members in five humanitarian appeals: Afghanistan Crisis, Pakistan Floods, Ukraine, Middle East, and Türkiye-Syria Earthquake. In addition to examining DEC members' efforts, the study also considers approaches implemented by non-DEC members, such as the United Nations Development Programme (UNDP).

4.1 Procurement and Supply Chain Management

Across all humanitarian operations studied, DEC members widely adopted local procurement. Several interviewees emphasised that locally sourced aid is prioritised whenever feasible and is often combined with regional prepositioning. Most interviewees confirmed local procurement's social and economic benefits, specifically that it allows for context-appropriate relief items and local market empowerment. Others also mentioned some environmental sustainability benefits, including reducing carbon emissions from transportation.

> "The first question we should ask is: How can we solve this with local resources?" *(DEC Member)*

Local procurement was also widely observed in the DEC members' regular appeal reporting to the DEC Secretariat. For instance, in Türkiye and Syria, **Islamic Relief Worldwide** reported prioritising locally manufactured relief items from suppliers with close geographic proximity to support local markets, reduce transportation distances and ultimately minimise carbon emissions. Specifically, non-food item kits, dignity kits, medicines, and disposables were manufactured in Syria or Türkiye. Similarly, **Save the Children** procured items locally from Gaziantep and Hatay in Türkiye, citing the same economic and environmental benefits. In Pakistan, the **IFRC** country delegation facilitated local procurement of shelter assistance. Prioritising local vendors to support local markets and reduce carbon emissions was similarly reported in Ukraine by **Action Against Hunger**, **ActionAid** and **Christian Aid**, in Pakistan by **Tearfund** and **Age International** and Afghanistan by the **British Red Cross**.

However, interviews and reports emphasised local procurement as highly context-dependent, exposing several barriers. The most common challenge was the instability of local markets in crisis locations that suffered from limited availability or lower-quality relief items. Multiple organisations mentioned that when local suppliers did not meet environmental sustainability standards, they had to turn to international HSC and decide whether they had the time, resources and capacity to conduct technical workshops to improve supplier awareness and capacity. Given the urgency of humanitarian response and lack of resources, not all organisations can prioritise training efforts. In conflict-affected areas, DEC members also had to factor in the risk of supply chain disruptions due to violence or other logistical obstructions resulting from conflict.

> "As much as you want to procure locally, the services provided are not always able to meet the standards." *(UNDP Practitioner)*

In Pakistan, one DEC member reported that despite wanting to prioritise local procurement during the flood response, the difficulty in finding local suppliers meeting the environmental sustainability standards and capacity led them to rely on imported materials via international HSC. As reported by another DEC member, **in Afghanistan**, adding environmental protection conditions to their procurement process reduced the number of bids from local suppliers as they struggled to reach the minimum requirements for sustainable waste management systems. This was similarly reported by an interviewee operating **in Sudan**, who added that rigid environmental standards not only limit the pool of eligible suppliers but can also result in partnerships skewing toward 'elite' local actors. Lastly, **in Ukraine**, two DEC member organisations reported that security volatility caused delays in the local sourcing of humanitarian supplies, ultimately limiting its use.

Capacity-building, technical training on environmental sustainability, and market assessments to anticipate local supply chain disruptions were recommended as key strategies to address these challenges (*see Section 4.4*). In conflict settings or fragile economies, continuous market assessments were mentioned as key to monitoring supply chain stability and anticipating disruptions. Harmonised market assessments, as well as other forms of information-sharing and coordination among humanitarian organisations, were also recommended to better anticipate local supply chain disruptions and identify trusted local vendors.

4.2 Energy Solutions

Numerous member organisations have widely adopted solar power solutions in recent humanitarian responses, demonstrating their potential to improve environmental sustainability and community independence while enhancing access to essential services.

In Pakistan, **Action Against Hunger**, **Tearfund** and the **British Red Cross** (BRC) installed solar-powered motors for water tanks, wells and water filtration plants to ensure reliable irrigation and water supply in regions experiencing frequent power shortages. The BRC also deployed high-efficiency solar systems to provide stable power for healthcare facilities. **Age International** provided solar energy units to flood-affected individuals, equipping them with solar panels, batteries, fans, and lights, which reduced carbon emissions and improved energy access, particularly for vulnerable groups (e.g. older people). Similar practices were widely adopted in Ukraine, Türkiye and Syria to improve energy security in the face of fuel crises and conflict-related disruptions. For example, **ActionAid** introduced eco-power banks and laptop charging stations in Ukraine as energy-efficient alternatives to traditional generators. In Türkiye and Syria, **Christian Aid** changed traditional fuel heating methods with electrical heating to reduce the community's dependency on generators. Similarly, **Oxfam** and **Tearfund** supported the installation of solarised water resources and solar street lights in project areas (e.g., Aleppo). Lastly, all members have supported the implementation of solar systems in many buildings, including members' offices, member's partner offices, schools, education centres and other institutions across all appeals.

Solarisation allows the localisation of energy production, providing local communities with energy independence from the centralised power grids and longer fuel supply chains and enhancing their resilience in the face of power disruptions. In addition, while reducing fossil fuel dependency, it can also reduce energy costs over the long term, both at the organisational and community level. Despite these successes, organisations faced practical challenges in implementation. **Concern Worldwide** (CW) reported that while environmentally friendly resources (e.g. solar panels) were encouraged for recovery efforts, the high implementation costs greatly limited their use. In addition, CW noted that investing in large-scale renewable energy infrastructure was often infeasible in conflict settings like Ukraine, where insecurity threatened maintenance and long-term sustainability. Similarly, **CAFOD** reported the limited adoption of sunflower briquettes as an alternative to firewood due to the requirement for specialised stoves.

Ultimately, successfully implementing these practices requires careful consideration of contextual challenges, such as upfront costs, technical requirements, and security risks. In addition, humanitarian organisations need to ensure that solar systems are maintained, repaired, and adapted by local actors, as reliance on external contractors may limit long-term sustainability. Localised capacity-building and community engagement remain essential to ensure that new energy solutions are both sustainable and scalable in humanitarian settings.

Image: Abdul Kareem, 28 years old, aid worker of DEC charity Action Against Hunger doing his daily routine activities and working with the manager of the school, Amira. They work together on a solar electricity project supported by AAH in Aleppo (Turkey-Syria Earthquake Appeal)

Text and Photo Retrieved from: DEC Media Centre
November 2023 - Hasan Belal / Fairpicture / DEC

4.3 Cash And Voucher Assistance

Due to its economic and environmental benefits, several DEC members often mentioned cash and voucher assistance (CVA) as a preferred aid delivery modality over in-kind aid. Cash assistance can prevent redundancy and the distribution of contextually inappropriate in-kind aid while reducing waste and decreasing the overall carbon footprint of a response (e.g. more contextually appropriate aid, reduced volumes of in-kind shipments, less packaging waste, and lower strain on local waste systems). DEC members reported utilising cash assistance programs 'over kits' to reduce waste. Additionally, where appropriate, some opted for using e-vouchers to reduce paper-cash distribution. For example, **Action Aid** reported using CVAs in Afghanistan for winterisation purposes to facilitate contextually appropriate investment in relief items. In Ukraine, the **International Rescue Committee** used electronic CVAs to reduce dependency on international and regional supply chains and minimise carbon emissions. Similarly, in Pakistan, the **Catholic Agency for Overseas Development** utilised CVAs for food distribution while prioritising e-CVAs through mobile transfers over direct cash.

However, the use of CVA highly depends on the context and faces several limitations. CVAs can create an environmental risk transfer to crisis-affected populations as those receiving cash assistance may purchase items harmful to the environment (Brangeon & Crowley, 2020). A remedy observed is to restrict CVA purchases of environmentally friendly materials that promote local environmentally sustainable markets and market activities. For example, in Syria, **Concern WorldWide** used CVAs to incentivise the purchase of environmentally sustainable materials for relief rehabilitation. The distribution of CVAs is also contingent on a working market. Several interviewees pointed out that using CVA becomes difficult in contexts faced with severe market shortages, such as in Gaza. In Ukraine, Concern Worldwide highlighted how CVAs were unsuitable to meet solid fuel shortage needs; thus, in-kind distribution was necessary. However, one interviewee stated that although humanitarian organisations' use of CVAs is not always appropriate, "*there will always be a market*", even in the most dire circumstances, thus eliciting the need for increased market assessments. Multiple interviewees emphasised that expanding CVA programmes requires greater investment in market assessments. When viewing relief efforts through long-term benefits, interviewees pointed out how CVAs can strengthen recovery efforts through direct investment into local economies. Ultimately, most interviewees viewed CVAs as a means to enhance the autonomy of crisis-affected communities.

4.4 Training, Capacity Sharing and Community Engagement

There is often a gap between the environmental sustainability standards of international humanitarian organisations and the practices and capacities of local suppliers. This gap is a key barrier to local procurement, limiting the pool of eligible vendors and partners *(see section 4.1)*. Similarly, 'green' awareness within communities is sometimes low, potentially contributing to the carbon footprint of CVA programmes (*see section 4.3*). HOs have implemented awareness programmes and capacity-sharing workshops for local partners and community members to address these barriers. Specifically, they conducted technical training programmes to support local suppliers to adopt sustainable practices and meet international organisations' standards. On a community level, capacity-sharing workshops take a more participatory approach, encouraging community members to share and set their own sustainability goals and increase awareness of sustainability practices. Several interviewees underscored the need to utilise a **capacity-sharing rather than capacity-building approach** when training local partners and suppliers on environmental practices. Capacity building may reproduce hierarchical and colonial power dynamics by framing failures as the responsibility of NLAs. It also risks undermining existing knowledge systems and sustainable practices already present in the community. Instead, fostering collaborative spaces where community members are encouraged to share and set their own sustainability goals is noted as a better practice.

> "If we only think of capacity-building as training sessions, we miss the expertise that already exists on the ground." *DEC Member*

One interviewee explained that when working with flood responses **in South Sudan**, assuming the position of a facilitator and supporting communities to implement their solutions was more effective than attempting to "solve their problems" for them. As in many other countries that experience seasonal flooding, local knowledge of context-specific flood responses has been shaped by years of experience within the community and is, therefore, better at context-specific flood response strategies.

> "The people closest to the problem are often closest to the solution." *DEC Member*

Interviewees and DEC members reported shared instances of successful community engagement in sustainable practices. **In Pakistan**, (DEC Pakistan Flood Appeal) **Islamic Relief** engaged local environmental groups, alliances and networks to promote climate-smart land and water use practices, particularly for flood mitigation through comprehensive watershed management. **In Sudan**, a UN practitioner shared that after observing externally sourced solar cookers being rejected or left unused by community members in a refugee camp in Sudan, the UN agency shifted to local production through vocational training centres, resulting in higher adoption and usability.

05. CRITICAL CONSIDERATIONS IN OPERATIONALISING LOCALISATION AND SUSTAINABILITY

Photo Credit: Palestine Red Crescent Society, via British Red Cross (Gaza)

5.1 Donors and Bureaucratic Hurdles

Donors play a key role in creating policies and incentives influencing the humanitarian system (Barbelet, 2019). Interviewees confirmed that donors, especially institutional and other stakeholders, are increasingly scrutinising the humanitarian sector's carbon footprint and encouraging HOs to achieve more sustainable operations. Similarly, they also confirmed that there is a growing interest in localisation. However, despite this appetite, interviewees noted that the practical integration of sustainability and localisation within humanitarian operations remains inconsistent. Many DEC members face operational, financial, and logistical challenges in aligning these agendas, often due to fragmented supply chains, donor funding restrictions, and the urgency-driven nature of the humanitarian response. Donors can be very supportive of practices like the installation of solar-powered systems. However, they often appear to **prioritise faster procurement processes** and immediate **spending** to meet urgent humanitarian needs or budget timelines. This preference for speed can conflict with efforts to adopt more sustainable and locally driven procurement practices. Procuring locally and sustainably at lower costs through competitive spending often requires additional time for supplier identification, capacity building, and ensuring compliance with donor regulations, all of which may slow down procurement timelines.

> "Aid agencies have the pressure to spend all the money as fast as possible because if not, they risk not receiving as much next time." *(DEC Member)*

One of the significant constraints of procuring locally is the bureaucracy involved in complying with the diverse and often complex requirements set by donors or HOs themselves (Castillo, 2024). Each donor imposes specific guidelines regarding financial reporting, quality assurance, ethical sourcing, and environmental standards. These different and uncoordinated requirements create a demanding administrative burden for local organisations and suppliers, who may be unfamiliar with such procedures or lack the resources to manage them effectively. Consequently, even when local procurement is desirable, these bureaucratic barriers can undermine its feasibility and effectiveness.

> "There is a bureaucratic problem: each donor has unique requirements, and completing numerous distinct reports is time-consuming." *DEC Member*

Interviewees highlighted that donors do not always provide enough flexible funding to support environmentally sustainable and localised procurement. For instance, earmarked funding and pre-existing contracts with external companies can stop them from procuring cheaper, local, readily available goods.

> "Sometimes, if you receive funding from 'x' donor country, you need to buy 'x' country's products or ask permission and go through large bureaucratic work to purchase non-'x'commodities." *Independent Consultant*

Interviewees have also noted that including local actors in decision-making can present significant challenges. Some donors remain hesitant or unwilling to engage with local actors directly. This reluctance may stem from concerns about accountability, perceived risks in working with less formalised organisations, or administrative complexities. As a result, local partners are sometimes sidelined in key conversations about funding.

> "Some donors are more flexible than others. We pushed to bring local partners directly into the conversation with donors. However, some donors do not want to engage." *DEC Member*

Despite recognising localisation as a strategic priority in the humanitarian sector, respondents acknowledged that the organisational structure of donors and humanitarian organisations remains a significant barrier to this goal. Specifically, they note that some intrinsic internal dynamics within these organisations can create incentives to maintain direct engagement in humanitarian aid. As noted by Frennesson, et al. (2022), there is a prevailing concern among stakeholders that increased localisation can affect their footprint in a country and result in negative financial, political, reputational and visibility consequences. This observation underscores the need for structural reforms within donor and humanitarian HO organisations to better align their internal processes, funding models, and strategic priorities with localisation objectives.

> "Power is always hard to shift. For many organisations, this is their model. [...] If you localise completely, their offices will close. It is like a turkey voting for Christmas." *Independent Consultant*

> "There is donor appetite for localisation, but we need to change our business approach, your business model". *DEC Member*

Lastly, it is important to note that recent developments in funding cuts from major donors such as USAID and UKAID have intensified these challenges. Whilst cuts will be devastating and penalise the most vulnerable, it will remain to be seen if any innovations emerge in response to these, such as the many mutual aid responses that fill gaps where the international community fails.

How the DEC supports Sustainability and Localisation

Whilst the DEC is not a donor, but a funder,[4] it can still play an influencing role when it comes to creating the conditions for sustainable and local disaster response. The DEC model supports these aims by providing the following:

- **Flexible funding**: Members can adjust their responses based on evolving needs on the ground, ensuring that aid is delivered effectively and efficiently. Flexibility in funds also allows members to support recovery efforts that extend beyond immediate emergency response, including longer-term rehabilitation initiatives.

- **Development of exit and transition strategies**: From the outset of appeals, the DEC works with members to ensure that there is a clear plan for transitioning away from DEC funds when they eventually end. This practice helps to ensure the sustainability of the programme by considering from the outset what is needed to achieve lasting outcomes.

- **Quality and equitable partnerships**: the DEC works with members to encourage good partnership practice that can help achieve lasting and transformative change. This includes setting the goal of 25% of funding to be passed on DEC member partners. In addition, 10% of partner funding can be used to cover core costs (e.g. staff costs and overheads), helping to ensure their sustainability, long-term capacity, and the effectiveness of humanitarian action.

[4] The DEC is an umbrella organisation of UK charities that coordinates emergency aid appeals, acting as a funder rather than a direct donor. Members collaborate to raise funds through appeals and these funds are then allocated across the membership to deliver aid to disaster-affected populations.

5.2 Time and Competing Priorities

A recurring theme from the interviews highlights the **tension** between immediate humanitarian response priorities and longer-term capacity-building efforts necessary to support localisation and implement sustainable practices. Respondents emphasised that humanitarian organisations are primarily held accountable for addressing the immediate needs of affected populations rather than the long-term impacts of their interventions. As two interviewees stated:

> "Aid organisations are held accountable for responding to the immediate needs of the beneficiaries and not on the future impact of their actions." *DEC Member*

> "Time is too short, there is a lack of long-term thinking within both the donors and aid agencies. [...] There is no time to think and consider the long term effects of the actions taken during a humanitarian response, as the priority is to immediately respond to the needs of the victims." *DEC Member*

This short-term focus often limits the ability of humanitarian organisations to invest in strengthening the capacities of local actors. For instance, while the Grand Bargain's commitment to allocate 25% of humanitarian funding directly to local and national actors represents a significant shift toward localisation, interviewees pointed out that local NGOs frequently lack the administrative and operational capacity to manage such funds effectively. However, humanitarian organisations often fail to provide the necessary resources and support to build this capacity, as their focus remains on short-term and immediate response efforts. The double standard and unrealistic expectations placed on local actors are exacerbating this barrier. International humanitarian organisations and other stakeholders often expect local organisations to be able to achieve rapid capacity growth under challenging conditions without the same level of investment, mentorship, or time afforded to international counterparts.

> "Local NGOs do not have the capacity to manage the 25% of funds. However, international organisations do not provide them the resources to expand this capacity because they prioritise meeting the need of the people. And 1 year programmes are not long enough to make local actors prepared." *DEC Member*

5.3 Climate Justice

A climate justice perspective contrasts the unequal *impacts* of- and *contributions* to the climate crisis by underscoring that the countries and communities least responsible for climate change are those most affected by it (Newell et al. 2020; Dolšak & Prakash, 2022). Climate justice also raises critical questions about responsibility, equity, and rights, emphasising that those most affected by climate change must have the ability to adapt, cope, and actively shape solutions to address it (Steinke, 2023:11). This report suggests that the environmental sustainability and localisation nexus in humanitarian supply chains intersect with climate justice in two critical ways.

First, as discussed in *section 3.4*, recognising and integrating local knowledge and priorities in supply chain strategies is critical to ensure local ownership and sustainability. While international organisations' environmental standards can incentivise local partners and vendors to adopt more environmentally sustainable practices, a community-informed, context-sensitive approach is necessary to avoid disregarding or undermining existing sustainable practices within the community. A participatory model, such as the capacity sharing approach outlined in *section 4.4*, fosters more equitable decision-making and priority setting on sustainability by valuing and leveraging communities' expertise. Second, while we have seen that localising humanitarian supply chains can, in many cases, reduce carbon emissions, it is important to critically consider where responsibilities for emissions reduction ultimately lie. As one practitioner put it:

> "It is unfair to force greening practices on local populations... The people responsible for the (climate) crisis we are in are absolutely in the top deciles of wealth. Most people that we work with are below two tonnes per annum. For us to put any burden on that population seems to me to be entirely wrong." *Independent Consultant*

The interviewee's statement underscores a core principle of climate justice: the "burden" of decarbonisation should not be placed on those with the smallest carbon footprints. It would be unjust to expect low-emitting communities to prioritise decarbonisation over their immediate needs, especially in the context of a humanitarian crisis. International humanitarian organisations must ensure that efforts to green the supply chain do not inadvertently disadvantage local actors or communities. In this regard, several interviewees emphasised the importance of supporting local actors and suppliers in climate adaptation through investment, training, and technology transfer.

Finally, a climate justice approach mirrors many of the principles of localisation, as both agendas raise fundamental questions of ownership, power, and responsibility. They emphasise shifting decision-making power to those most affected, whether by humanitarian crises or climate change (or both) so that they can lead in shaping solutions. As the humanitarian sector moves towards more sustainable and localised supply chains, it must ensure that this transition is fair, inclusive, and transformative. Rather than undermining local resilience, the shift toward greener supply chains must serve to strengthen it.

Image: Derifa buys vegetables and fruit after receiving cash support at a camp in NW Syria on 21 June 2023. As part of Age International's response to the Turkey-Syria earthquake, our local partner Syria Relief carried out the second round of multipurpose cash assistance distribution which aims to enable people affected by the earthquake and living in camps and temporary shelters to meet their immediate basic needs. As per the cash technical working group guidelines, each household will receive three rounds of multipurpose cash assistance with the following tranches ($150 + $100 + $100).

Text and Photo Retrieved from: DEC Media Centre
(Turkey-Syria Earthquake Appeal)
June 2023 - Arete / DEC

06. CONCLUSION

Photo Credit: Maciek Musialek/DEC (Ukraine)

6. Conclusion

This report aims to understand the central areas of overlap in greening and localising humanitarian supply chains. In particular, it reviews evidence related to local procurement, sustainable energy sources, cash and voucher assistance, and capacity-sharing to highlight the benefits and challenges of these approaches. Through this analysis, the report identifies the challenges and barriers that have either stalled localisation, sustainability or both agendas. Given these findings, the report makes the following observations.

Firstly, **local procurement** emerged as a preferred strategy by practitioners, as it can lower the costs of goods and services, reduce delivery times and benefit the local economy. In addition, there was a consensus that humanitarian organisations could reduce carbon emissions associated with international transportation by sourcing goods and services locally. Despite this, the success of local procurement is highly context-dependent, and this report classifies it as a conflicting area when trying to align sustainability and localisation agendas. Achieving sustainable and localised procurement can be challenging in crisis-affected areas with fragile markets, unstable supply chains, or limited supplier capacity. For instance, the lack of environmentally friendly supplies forces HOs to compromise their sustainability standards or resort to international suppliers, often resulting in the former. However, as reported by DEC members, investing in training and capacity-sharing initiatives with local suppliers and communities and continuous market assessments can mitigate this dilemma by improving local supplier readiness and ensuring the effective integration of sustainable practices.

Secondly, **Cash and Voucher Assistance** (CVA) can also successfully promote both agendas. CVAs empower crisis-affected populations to make local purchasing decisions, reducing the risk of waste associated with inappropriate in-kind aid or transport-related carbon emissions. In addition, to promote environmentally friendly consumption, CVA can be conditional and combined with clear environmentally sustainable guidance and incentives. However, the environmental impact of CVA remains difficult to measure due to limited visibility into individual spending patterns. In addition, like local procurement, the use of CVA is context-dependent and equally affected by fragile markets, unstable supply chains, or limited supplier capacity.

Thirdly, while **sustainable energy solutions**, such as solar power, have proven effective in improving environmental outcomes and strengthening community resilience, their implementation requires careful planning and remains context-dependent. The high upfront costs, maintenance challenges, and security risks associated with renewable energy infrastructure can limit its adoption in conflict or crisis settings.

However, as reflected by DEC appeals' reports, successful examples, such as solarisation projects in healthcare facilities and community spaces, demonstrate that investing in local capacity and skills for installation, maintenance, and repair can ensure long-term sustainability and secure localised energy.

The report opens several avenues for future research in light of these observations. As noted in the literature review, the sustainability and localisation nexus in HSCs remains an understudied area. Further research is needed to build an evidence base on how localisation and environmental sustainability initiatives align or conflict in different contexts. In particular, studies examining community perceptions of greening and localisation efforts would provide a valuable perspective. Additionally, given this paper's discussion of the links to the climate justice agenda, future research could further investigate the intersections between localisation and climate justice. Future research could include a deeper examination of the mutually reinforcing purposes the agendas can serve in greening efforts in humanitarian supply chains and beyond. Ultimately, such findings can enhance our understanding of how power dynamics influence the implementation of sustainable and locally driven humanitarian operations.

Sustainability and localisation practices are not silver bullets for achieving a fully resilient humanitarian supply chain. However, when integrated effectively alongside complementary strategies such as preparedness, they offer valuable frameworks for improving operational efficiency and environmental responsibility. While these agendas can sometimes align, they may also present conflicting priorities, requiring humanitarian organisations to strike a balance carefully. Based on the analysis above and drawing from ideas offered by interviewees, this report offers the following recommendations to support the simultaneous implementation of the sustainability and localisation agendas in HSC, detailed on the next page.

6.1 Key Recommendations

1	**Collective donor approaches** A coordinated donor and DEC strategy that aligns funding requirements and reporting mechanisms can reduce administrative burdens for humanitarian organisations and local and national actors, enabling more effective implementation of sustainable and localised practices.
2	**Increasing multi-year funding** DEC members should actively advocate for and adopt multi-year funding models to avoid short-term funding cycles that limit the ability to invest in long-term strategies.
3	**Capacity Sharing** DEC members should prioritise capacity sharing over traditional capacity-building approaches to promote mutual learning, collaboration, and the recognition of national and local actors as equal partners.
4	**Coordination and Knowledge Sharing** DEC members should strengthen coordination and knowledge-sharing mechanisms within the communities and the DEC network. Improved collaboration can enhance collective learning, reduce duplication of efforts, and support the adoption of best practices across humanitarian responses.
5	**Market Assessment Tools and Experts** Interviewees underlined the need to invest in improved and shared market assessment tools as well as engage technical experts to better understand the HSC dynamics, particularly when implementing practices like local procurement and CVA.
6	**Local Energy Solutions** DEC members should support locally led training initiatives that enable community actors to maintain, repair, and adapt solar energy systems. Supporting local expertise and ownership in new energy solutions is essential to ensuring their sustainability and scalability, while reducing dependency on external contractors.

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