



Delivering in a Moving World...
...looking to our supply chains to meet the increasing scale, cost and complexity of humanitarian needs
June 2016



TABLE OF CONTENTS

LIST OF FIGURES	3
EXECUTIVE SUMMARY	4
1. INTRODUCTION	8
2. CURRENT CHALLENGES OF THE HUMANITARIAN SUPPLY CHAIN AND RECOMMENDATIONS TOWARDS OVERCOMING THEM	10
2.1 Strengthening the local response	10
2.2 Continuous assistance: the marriage of cash and in-kind	12
2.3 Access to beneficiaries during complex emergencies	14
2.4 Engagement of the private sector in humanitarian operations	17
2.5. Coordination, collaboration and shared services among humanitarian stakeholders	18
3. CONCLUSIONS	21
ACKNOWLEDGEMENTS	23
REFERENCES	24
LIST OF ACRONYMS	27

LIST OF FIGURES

Figure 1 - World Humanitarian Summit Agenda for Humanity Core Responsibilities	4
Figure 2 - Humanitarian funding requirements	11
Figure 3 - Supply Corridors into Syria	16
Figure 4 - Explanation of the Bullwhip Effect	17

EXECUTIVE SUMMARY

In May 2016, the international community will gather at the World Humanitarian Summit (WHS) with the purpose of achieving “better, safer and more efficient aid” through the fulfilment of the Agenda for Humanity’s five Core Responsibilities: 1) global leadership to prevent and end conflict, 2) uphold the norms that safeguard humanity, 3) leave no one behind, 4) change people’s lives – from delivering aid to ending need and, 5) invest in humanity.



Figure 1: World Humanitarian Summit Agenda for Humanity Core Responsibilities¹

With nearly 88 million people in need worldwide (UN, 2016), it has never been more important for humanitarian operations to fulfil these Core Responsibilities and be more cost efficient and effective in delivering aid. **The Humanitarian Supply Chain (HSC)², which represents between 60 to 80 percent of humanitarian expenditures** (Van Wassenhove, 2006), is the backbone of humanitarian operations and its functions are vital to reaching beneficiary populations.

The humanitarian community knows that it will need to respond each year to natural disasters, such as earthquakes, typhoons, droughts and others—we just don’t know exactly when or where they will strike or how many people will be affected (Tomasini & Van Wassenhove, 2009). While the HSC is prepared to react to these diverse events, it must also continue to service protracted crises, which can create complications. Even though the HSC has made great improvements in recent years, it still faces challenges with localising response capacities, striking the correct balance between international support and national response, and investing in preparedness to improve the quality, duration, and cost effectiveness of emergency responses. This report highlights tangible changes that will make a real difference in humanitarian operations and overcome these challenges.

To do so, we pose six questions and provide recommendations for implementation based on humanitarian response case studies, including the Nepal earthquake response, the West Africa Ebola outbreak, Super Typhoon Haiyan, and others. The questions and recommendations within this paper are drawn from interviews with nearly 40 practitioners conducted between February 2015 and April 2016 and through both grey and academic literature.

¹ Image retrieved from OCHA World Humanitarian Summit 2016 web page

² The term humanitarian supply chain is often referred to in the field as humanitarian logistics. This study does not make a distinction between the term supply chain and logistics. For purposes of consistency, we have used the term humanitarian supply chain throughout this paper.

EVERY
DOLLAR SPENT
reducing people's
VULNERABILITY TO DISASTER
SAVES AROUND
7 DOLLARS
IN ECONOMIC LOSSES
\$\$\$\$\$\$\$\$

Humanitarian cost requirements are increasing each year at alarming rates. Emergency preparedness activities, particularly at the national and local levels, have been proven to not only save lives, but also reduce response time and expenditures. In fact, according to a study on return on investment of emergency preparedness activities conducted in Chad, Madagascar and Pakistan (BCG, 2015), **preparedness interventions can speed response time by 2 to 50 days**. In addition to time, preparedness and resilience programming also cuts costs. In fact, the United Nations Development Programme (UNDP) has found that, **“Every dollar spent reducing people’s vulnerability to disaster saves around**

seven dollars in economic losses” (UNDP, 2012). Unfortunately, funding for preparedness activities undertaken by local actors is decreasing. It is estimated that only 0.2 per cent of international funding was provided directly to national and local non-governmental organisations (NGOs) in 2014. (Development Initiatives, 2015). Therefore, we ask, ***how should the international community invest to reduce the cost, and increase the localisation, of humanitarian response?*** We urge the international community to shift the paradigm from separate humanitarian and development silos and to **leverage and realign funds across humanitarian and development budgets** towards specific goals of reducing the cost, and improving the speed, of future humanitarian supply chains. We need to make preparedness investments a much **larger proportion of humanitarian and development budgets**, and ensure they are deliberate, focused and tangible.

Increasingly, humanitarian organisations are implementing cash based modalities during emergency responses complementary to traditional in-kind assistance. While **cash transfer programmes (CTPs) empower affected people and align the humanitarian system to what beneficiaries need** (WHS, 2015), as evidenced during the 2013 Super Typhoon Haiyan response in the Philippines, they require continuous monitoring and support of local supply chains as well as agility within humanitarian organisations to transition between in-kind assistance and cash modalities. We pose the question, ***How can humanitarian organisations ensure a seamless transition between in-kind and cash modalities?*** The solution lies in providing support to local supply chains during both the preparedness and response phases when utilizing cash modalities *and* in maintaining in-kind supply chains in the event that humanitarian organisations must quickly transition to providing relief items to beneficiaries. To do this, **investment needs to be made in agility, not just cash OR in-kind—and we should recognise that both will always have a place in humanitarian response.**

The current conflicts in Syria and Yemen demonstrate the difficulties in maintaining secure supply lines and access to beneficiaries during complex emergencies. Fighting, insecurity and territorial control changes create delays and an unpredictability of the supply chain and increase operational costs, while sieges keep affected populations from receiving vital, life-saving assistance. These scenarios prompt us to ask, ***How can we ensure uninterrupted supply access to beneficiaries in a complex emergency?*** **Our recommendation is for governments, as the stakeholder with the highest political influence, to guarantee that the humanitarian supply chain is respected as neutral, that supply corridors are opened and protected and ultimately that conflicts cease.** To achieve this, we propose that organisations work closely with governments prior to emergencies and to have signed agreements for cooperation and facilitation of humanitarian work in the country.

The importance of the private sector's role in the humanitarian supply chain was evident during the response to the 2014 Ebola outbreak when swings in demand and a shortage of personal protective equipment (PPE) components affected response capacities. Thus, a question arises—***How can the humanitarian and private sectors leverage and benefit from their inherent interdependencies towards improved humanitarian outcomes?*** **The humanitarian sector can achieve this by establishing long-term collaborations with the private sector at local, regional and international levels, along with National Disaster Management Offices (NDMOs) and other stakeholders, for both emergency preparedness and response activities.** Indeed, the humanitarian sector needs the expertise of the private sector to leverage innovative technology and tools to better forecast demand, develop virtual supply chains and transparently share data and information. This would tie in with private companies' Corporate Social Responsibility (CSR) programmes and provide them with visibility in the humanitarian sector.

The humanitarian community has immensely improved its coordination and collaboration structures in the twelve years since the 2004 Indian Ocean tsunami, as evidenced by the cluster system and the wide variety of common service provision. However, we ask two questions regarding coordination and collaboration: ***How can we evolve our coordination with increasing numbers of actors, to maintain humanitarian standards and effectiveness?*** and ***How can the humanitarian sector rationalise our supply chains to meet increasing needs?*** We argue that local humanitarian networks should be strengthened for both preparedness and response activities so that international intervention can be complementary to it. Local and international humanitarian communities should be aligned on preparedness scenarios and collaborate on information management and strategic coordination. As Ian Ridley, senior director of World Vision states, we should surely be striving for a humanitarian response which is ***“as local as possible, and as international as necessary”*** (Wall, 2015). Additionally, common services among humanitarian actors will not only aid in reducing operational costs but also in meeting demand and assisting affected people.

Of course, there is not always a way to make supply chains faster, cheaper and more efficient as much depends on both emergency contexts and various external factors. However, much can be done to improve humanitarian supply chains by achieving the recommendations suggested in this paper. **We hope these recommendations provided will be a starting point for debate, will stimulate dialogue and generate ideas among humanitarian stakeholders for improvements and encourage future research and strategic investments in humanitarian operations and supply chains. Most of all, we hope that the paper inspires the commitment from all humanitarian stakeholders to assist with improving humanitarian supply chains.**

1. INTRODUCTION

“Better, safer and more efficient aid” is the stated purpose of the first World Humanitarian Summit. Aiming to improve humanitarian assistance for nearly 88 million people in need (UN, 2016), the summit is focusing on three goals: “to re-inspire and reinvigorate a commitment to humanity and to the universality of humanitarian principles; to initiate a set of concrete actions and commitments aimed at enabling countries and communities to better prepare for and respond to crises, and be resilient to shocks; to share best practices which can help save lives around the world, put affected people at the center of humanitarian action, and alleviate suffering” (WHS, 2016).

With **60 to 80 per cent of humanitarian funding utilised by the supply chain**, (Van Wassenhove, 2006), efficiencies must be found here, if we, the humanitarian community, are to effectively meet ever increasing need.

The composition of the humanitarian community, and the actors involved, is evolving. It is no longer the case that aid is delivered **by** United Nations (UN) agencies and International Non-Governmental Organisations (INGOs) **to** beneficiaries. Other stakeholders, including donors, local and international humanitarian organisations, the private sector, national governments, as well as civil protection and military bodies, are increasingly important players in achieving more impactful, appropriate humanitarian delivery. It is imperative that humanitarian assistance should become, as Ian Ridley states, “**as local as possible, and as international as necessary**” (Wall, 2015).

**60% to
80%**
**OF HUMANITARIAN
cost is in the
SUPPLY CHAIN**



So what is the Humanitarian Supply Chain? Definitions vary, but in essence, it is “the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials, as well as related information, from point of origin to point of consumption...” (Thomas & Mizushima, 2005). The HSC has always been part of disaster response programmes; however, *awareness* of its criticality grew significantly when it was strained after the Indian Ocean Tsunami in 2004. Like many behind the scenes entities, the humanitarian supply chain was suddenly brought to the front of stage as it struggled and broke under the strain of responding to this scale of emergency. The response to the 2004 Tsunami was characterised by images of congested airports, blocked access to ports, warehouses clogged with costly materials, inappropriate supplies and limited human resources (Argollo da Costa et al., 2014). The lack of preparedness and coordination in this response was criticised by the World Disaster report (The Guardian, 2005). This, more than any previous

emergency, showed how critically **the success or failure of a response hinges on the humanitarian supply chain.**

Considering this, and the volume of spending in the supply chain, it is perhaps notable that the community of practitioners in humanitarian logistics and supply chain are often still not represented at the strategic level within their organisations, and further have little direct dialogue with the institutional donor community. Humanitarian Reform and the advent of the UN Cluster System in 2005 framed the international community's commitment to learn and improve from the shortcomings of the Tsunami response. For the HSC, the Global Logistics Cluster, and the wider logistics community, have made significant progress in improving the coordination and efficiency of aid delivery in the last decade. Strong coordination and optimisation of operations has been the core focus of logistics practitioners during past emergency responses.

The challenge now is to truly **localise response capacity**, maintain the right complement of international support, and to leverage **greater investments in preparedness**. In doing this, we not only improve the quality of response but critically reduce its cost and duration. The goal of this report is to highlight tangible changes that will make a real difference in humanitarian operations, specifically within the HSC.

We will present several case studies from both complex emergencies and natural disasters over the last six years and use these to examine what critical actions need to be taken to meet future needs. The audience for this paper is senior decision makers in the international and national humanitarian community who can implement these recommendations to achieve a more agile, predictable and efficient supply chain.

2. CURRENT CHALLENGES OF THE HUMANITARIAN SUPPLY CHAIN AND RECOMMENDATIONS TOWARD OVERCOMING THEM

2.1 Strengthening the local response

Case study: 2015 Nepal Earthquake

Nepal is located on a fault line and seismologists had long anticipated that a major earthquake would hit the country. In April 2015, this prediction came true and an earthquake measuring 7.8 on the Richter scale occurred, killing approximately 9,000 people and leaving 5 million people needing assistance (EM-DAT, 2015).

Since the humanitarian community was aware of this risk, preparedness activities had been taking place for several years prior to the earthquake. For example, beginning in 2012, the Nepal Red Cross developed plans for community disaster response, trained the population to identify hazards and risks and trained emergency responders in first aid (British Red Cross, 2016). The World Food Programme (WFP) worked with the government of Nepal and the Logistics Cluster for two years on an earthquake response scenario in the Kathmandu Valley, delivering HSC trainings and simulation exercises to government staff to establish a more predictable emergency response structure (Burgaud, 2016a).

The significant investments involved working with individual government departments and included readiness and understanding of what an international and national response would look and feel like, how processes, systems and entities (for instance the Logistics Cluster and its interface with various departments) would work, and identifying pressure and pain points. Consistently, the aim of these investments was to try, as far as possible, to avoid an internationally dominated response approach, but rather promote a nationally stronger response, supported by international actors and resources. WFP also established a Humanitarian Staging Area at the Kathmandu airport which acted as a central hub for airlifted and overland assistance during the earthquake response (WFP, 2015). The investment in sustained capacity development of national actors, combined with a level of infrastructure preparedness prior to the earthquake, proved vital to the effectiveness of the response operation. According to Baptiste Burgaud, the Regional Logistics Advisor of WFP supporting this project in Nepal, the capacity development project saved time and resources for national and international responders alike, allowing international humanitarian organisations (IHOs) to more quickly respond and alleviate the suffering of the affected population. He highlighted the importance of continuing to invest in local capacity and infrastructure preparedness to mitigate the impact of future natural disasters (Burgaud, 2016b).

**PREPAREDNESS
INTERVENTIONS
can speed response time
BY 2 TO 50 DAYS**

The better prepared a country is, the later and less the need for international humanitarian assistance. Moreover, the more prepared the country, the greater the effectiveness of a response, as **preparedness interventions can speed up response time by 2 to 50 days** according to a study on return on investment of emergency preparedness conducted in Chad, Madagascar and Pakistan (BCG, 2015).

Cases such as the Nepal earthquake response raise an important question: *how should the international community invest to reduce the cost, and increase the localisation, of humanitarian response?*

Preparedness is not new; many international humanitarian actors have been undertaking ‘preparedness’ and ‘capacity building’ work for much of the last decade. There is increasing evidence base for the benefits of investing in preparedness to reduce the cost of future response. **In fact, it is estimated that the benefits of investing in resilience consistently outweigh the costs yielding gains ranging from US\$2.3 to US\$13.2 for every dollar invested** (DFID, 2013). In the UNDP report “Putting Resilience at the Heart of Development (June 2012),” Helen Clark, UNDP Administrator states, **“Every dollar spent reducing people’s vulnerability to disaster saves around seven dollars in economic losses.** Investing in prevention not only increases the resilience of countries for future disasters, but protects economic growth and other development achievements from being lost in a single catastrophic event.”

Investing in these countries today alleviates, to a great extent, the potential financial toll tomorrow. As stated by the High-Level Panel on Humanitarian Financing (2016), **“without investing to reduce fragility where it is most profound, the humanitarian bill will continue to rise”** (see Figure 2 below).

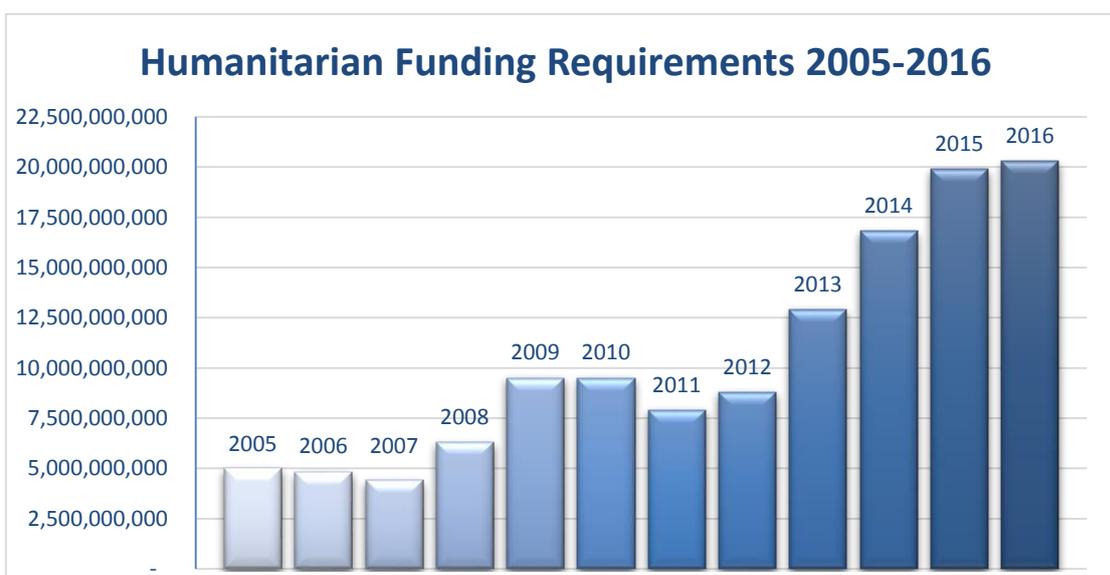


Figure 2: Humanitarian funding requirements

Increasing local leadership of humanitarian response is also not new. Surprisingly then, **between 2012 and 2014 the share of finance going directly to national and local non-governmental organisations dropped by half, from 0.4 per cent in 2012 to 0.2 per cent in 2014** (Development Initiatives, 2015).

The case study and examples presented show us clearly that **investing in supply chain preparedness and infrastructure saves money and time in future response**. This shouldn't be surprising when, as previously stated, 60 to 80 per cent of humanitarian expenditure is in the supply chain. (Van Wassenhove, 2006). The case for **'Spend now to Save later'** is clear, but we now need to shift the paradigm from thinking in humanitarian and development silos, and begin to **leverage and realign funds across humanitarian and development budgets** towards specific goals of reducing the cost and improving the efficiency of future humanitarian response actions. We need to make these preparedness investments a much **larger proportion of humanitarian and development budgets**, and ensure they are deliberate, focused and tangible.

2.2 Continuous assistance: the marriage of cash and in-kind

Case study: The use of Cash Transfer Programming in the Philippines before and after Super Typhoon Haiyan in 2013

In November 2013, Super Typhoon Haiyan left 16 million affected people in the Philippines. (EM-DAT, 2015). To alleviate the suffering of the affected people, an estimated US\$338 million was delivered to beneficiaries via cash transfer programming (Pelly et al., 2015). The trend of increasingly utilising cash and market based modalities is clearly on the increase in humanitarian response. What then is the role of the humanitarian supply chain?

As well as a humanitarian delivery modality, in the Philippines example, cash based programming had been used for years in a development setting by the government and other actors. The Filipino government has offered a conditional cash programme, the *Pantawid Pamilyang Pilipino Program* (4Ps), to poor households since 2008 (Pelly et al., 2015).

Cash was also widely used as a response modality by a large number of humanitarian actors during the Super Typhoon Haiyan response. For example, WFP partnered with *Pantawid Pamilyang* to offer the Emergency Cash Transfer Top-Up project, which reached approximately 500,000 beneficiaries. By working together and using CTPs, WFP and *Pantawid Pamilyang* provided "assistance more quickly than either institution could have done on its own" (WFP and BFA, 2015). Additionally, in 2011, Action Contre la Faim (ACF) provided conditional grants through paper commodity vouchers in the aftermath

of the floods in Cotabato and Oxfam intervened with unconditional and conditional³ cash transfers for emergency food security and livelihood rehabilitation during the Typhoon Ketsana response (Poisson, 2011).

Cash based modalities undoubtedly empower affected people and align the humanitarian system to what beneficiaries need (WHS, 2015). However, the level of market and infrastructure functionality is fundamental for the execution of CTP. At present, modality decision making does not sufficiently consider the status of the market before the crisis, nor the functionality of the market and upstream pipeline and feeder markets after the shock. Further, there is no real ownership within the international humanitarian architecture for continuous market monitoring in an emergency response – both to inform the continued implementation of cash based programmes and, where necessary, switch back to in kind assistance where markets have taken a turn for the worse.

This was also illustrated in the Philippines case study where, despite significant improvements in cash coordination and standardisation of approach, there was still considerable pressure on actors to make a modality decision before having a thorough understanding of the market. In addition, the continuous monitoring of the market during CTP (including both the direct commodities and indirect ‘connected’ commodities such as fuel, services, etc.) was weak and did result in some CTP activities struggling in certain areas. Further, there were rapid market assessments conducted and often in a coordinated way after the shock, but there had been less pre-crisis market assessment conducted as a preparedness measure.

Cases such as the one in Philippines raise the following question: ***How can humanitarian organisations ensure a seamless transition between in-kind and cash modalities?***

In order to do so, humanitarian organisations must cultivate a thorough understanding of the entire local supply chain and market, including producers and suppliers, wholesalers, transporters, distributors and local shops. This will require close interaction with the local private sector and NGOs on the ground as they will know the local markets best. Humanitarian actors need to continuously monitor the market and fully understand their upstream supply chain in order to ensure suppliers are ready to provide their services or deliver the requested amount of items during a response. During the preparedness phase, humanitarian organisations can support market strengthening activities, such as enhancing storage, transport, distribution, equipment, access to credit and business skills trainings for small business owners, so that local supply chains are more resilient for future emergencies and able to sustain cash based programmes.

³ By unconditional grants “recipients are given money with no conditions or work requirements. Recipients are entitled to use the money however they wish. The objective is that people will buy whatever they need” (Poisson, 2011, p. 5). “Conditional grants are cash transfers that must be spent in a particular way (i.e., buy equipment to set up livelihood activity), or in exchange for specific actions that need to be taken (i.e., send children to school) (Poisson, 2011, p. 4).

When CTPs are used in emergency responses, humanitarian organisations still have an important role to play in the supply chain. Support to supply chains can include repairs to roads and bridges along vital supply routes and assisting transporters and distributors with access to fuel so that goods can be delivered. Additionally, local producers can be supported with financial grants or equipment to increase production. It can take time for markets to feel the full impact of an emergency, which can lead to either a false positive or negative market reading during rapid assessments. Even when organisations provide assistance via cash based programming, they must still monitor supply chains and markets to ensure CTP activities are appropriate as they depend on functioning local markets as well as maintain their own supply chains for relief items. In some instances, humanitarian organisations may need to quickly transition back to in-kind modalities if the local market fails to ensure that beneficiaries receive assistance. However, it will become more and more likely that IHOs will need to switch back and forth between in-kind and cash assistance, especially in the aftermath of natural disasters. **Investment needs to be made in agility, not just cash OR in-kind—and we should recognise that both will always have a place in humanitarian response.** The humanitarian supply chain is not international warehouses and planes; here, more than anywhere, it is an integral component in a programme delivery structure. Furthermore, we recommend that the donor community not force humanitarian organisations to choose between cash or in-kind modalities when funding emergency responses—the decision to implement either, or both, modalities should be based on local market assessments and what will ultimately most assist beneficiaries.

2.3 Access to beneficiaries during complex emergencies

Case study: The ongoing armed conflicts in Syria and Yemen

The armed conflict that started in March 2011 has left 4.8 million refugees (UNHCR, 2016) and 13.5 million people requiring humanitarian assistance within Syria (Data reported up to March 16, 2016) (OCHA, 2016). There are several parties to conflict in the country and one of the methods of war adopted has been for opposing forces to besieged areas, making it impossible for humanitarian organisations to deliver uninterrupted assistance to these locations. Indeed, in 2016, Robert Mardini, the regional director of the Near and Middle East of the International Committee of the Red Cross, has called for rapid and regular access to these communities as people's conditions under siege have deteriorated (ICRC, 2016).

The humanitarian response in Yemen is also facing similar conditions. The humanitarian operation in the country has been jeopardised because there is no longer a functioning or continuous supply corridor. Aid has been restricted by intense fighting, the proliferation of checkpoints, communication

gaps in the lines of command and control within armed groups and bureaucratic requirements imposed by the Yemeni authorities (UN News Centre, 2016). These conditions have caused delays and unpredictability of the supply chain, which is reflected in the cost of the operation. For example, the security situation thwarted several attempts to reach the city of Aden by sea, forcing ships to turn back, causing unexpected costs. This could have been avoided by ensuring a safer and neutral corridor (Schlein, 2015). In a complex emergency such as the Syria conflict there are always a number of different regional factors that directly affect the situation in-country. These factors are often outside the control of humanitarian actors and even governments. However, one way of achieving a level of control over the response is to have an agile and flexible supply chain that can adapt on the fly to changing security dynamics. During WFP's Syria operation, when specific border crossings were closed due to clashes between different groups, this did not affect the pipeline as supplier agreements had been created in different countries in the region and transport and customs provider lists had been compiled for each potential entry point, making it easy to switch to different border crossings/ports as required by the situation. This agility allowed operations to continue unimpeded, with certain ports being used more frequently (e.g. Beirut Port, when Tartous Port was temporarily closed down). The ability to implement quick scaling down and scaling up of logistics hubs according to need was key to the continuity of the supply chain.

These examples where political and insecure environments affect the entire humanitarian supply chain and hinder humanitarian operations raise an important question: ***How can we ensure uninterrupted supply access to beneficiaries in a complex emergency?***

“A strong determination at the highest level of global political leadership is necessary to prevent and resolve conflicts” (High-Level Panel on Humanitarian Financing, 2016). Our recommendation is for governments, as the stakeholder with the highest political influence, to guarantee that affected populations receive necessary assistance by ensuring that the humanitarian supply chain remains neutral.

A critical requirement to ensuring continuous, uninterrupted supply in complex emergencies is the use of alternative supply routes. One key factor leading to a breakthrough of sorts in the Syria Emergency Response was the UN Security Council Resolution 2165 of 2014 which authorised UN agencies to utilise additional border crossings from Turkey to Syria for the delivery of aid (see Figure 3 on the following page). This allowed additional humanitarian aid to reach people in need, irrespective of their affiliation in the broader conflict. This was one example of high-level advocacy and decision-making directly affecting access on the ground, which can be taken as a precedent for similar complex emergencies in the future. In addition, the enforcement of ceasefires in late-2015 and early 2016 which were brokered at the highest levels of the United Nations between sovereign regional nations and groups within Syria, also changed ground realities and allowed access to

previously inaccessible and hard-to-reach areas. While some progress has been made, much can still be done by the international community to ensure all civilian populations are reached and humanitarian activities are protected within Syria.

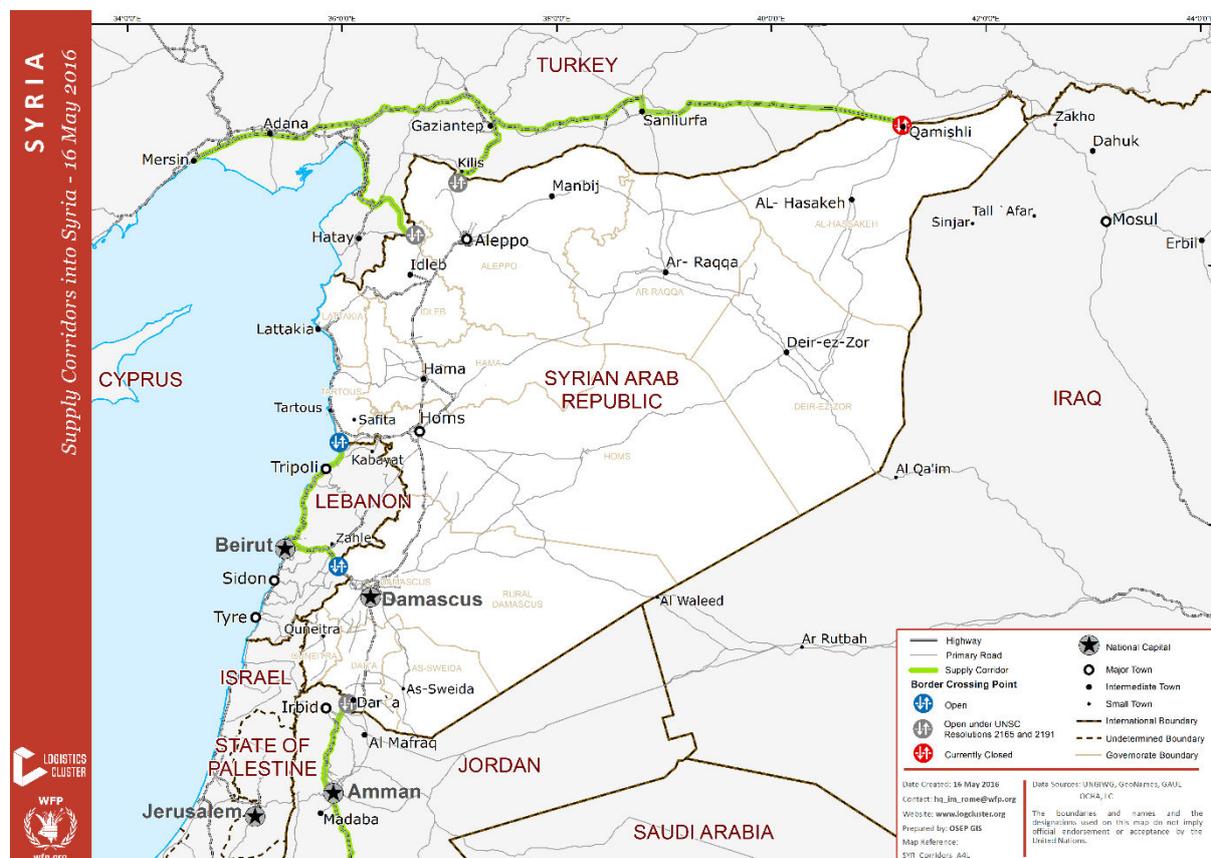


Figure 3: Supply corridors into Syria

During recent emergencies, it has been observed that security decisions that do not incorporate considerations for supply chains can have adverse effects on the humanitarian pipeline. Keeping in mind the increased complexities required to maintain a relatively stable supply chain network during active conflicts, there is a strong need to incorporate the security element into planning the supply chain. Currently, security is not discussed at a detailed enough level within the Clusters, and there is space for security-focused forums (such as the UN Security Management Team, or UNSMT) to coordinate more closely with the Clusters in order to better inform their supply chain planning. This increased coordination and information sharing should not be limited to the UN, and must also include other existing security networks including NGO security forums.

2.4 Engagement of the private sector in humanitarian operations

Case study: The private sector as a key partner in the 2014 Western Africa Ebola outbreak response

The role of international and national private sector actors in humanitarian delivery is not new. The evolution of roles has moved beyond simply ‘suppliers’ (the private sector) and ‘buyers’ (IHOs) to increasingly recognizing the interdependencies that exist and the potential to collaborate towards mutually beneficial outcomes. However, significant opportunities remain untapped.

The dependency of humanitarian response on the private sector can also hinder programme delivery. For example, a problem or delay in the private sector’s upstream supply chain can jeopardise humanitarian assistance as demonstrated in the response to the 2014 Ebola outbreak.

The shortage of personal protective equipment components affected response capacity, with some humanitarian organisations unable to safely open new clinics or expand field operations (POMS, 2015). Furthermore, this interdependency also affected manufacturers. For instance, during the outbreak, the demand for PPE components was uncertain and the volumes requested of suppliers were often unclear (and in some cases exaggerated), hindering the manufacturers’ and suppliers’ ability to supply effectively (POMS, 2015). Demand information was not shared with suppliers and manufacturers creating the “bullwhip effect” (see Figure 4 below).

What is the Bullwhip Effect?

Demand variability increases as you move up the supply chain from customers towards supplier

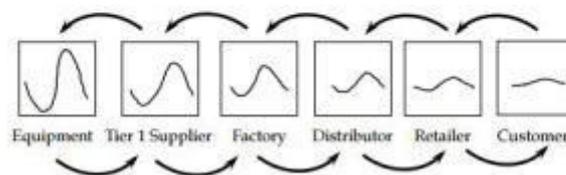


Figure 4: Explanation of the Bullwhip Effect⁴

The Ebola response should also be recognised for its successes, just one example being the partnership between Logistics Cluster, UPS and Cologne Bonn Airport, in establishing a staging area in Cologne, made available to humanitarian organisations for the consolidation of air shipments for the Ebola response. The Cologne Staging Area provided frequent air transport opportunities to Ebola-affected

⁴ Image retrieved from Overview of Operations Management – Mitch Kirby web site

countries, thus reducing delivery times of life-saving supplies, and facilitated critical cost-saving (Global Logistics Cluster, 2015)

Circumstances such as the ones observed during the Ebola response raise the following question: ***How can the humanitarian and private sectors leverage and benefit from their inherent interdependencies, towards improved humanitarian outcomes?***

The humanitarian sector should leverage both sectors' capacities by establishing long-term collaborations with the private sector that recognises the role of the private sector as an enabler of humanitarian work at local, regional and international levels. This collaboration can be improved by establishing integrated partnerships based on cross-functional planning as a better reaction to a crisis can be ensured by having the private sector involved in the preparedness phase.

These integrated partnerships could manifest in pre-agreements on virtual stocks, priority access to production information, stockpiles and service capacity, for instance in future health pandemics. They may also include the development of virtual supply chains, innovative technological tools to improve the accuracy of the demand forecast and the establishment of local partnerships.

In order to meet large scale response needs, in particular pandemic health crises, we will also need to improve the management of upstream supply chains which will call for a better coordination, transparency and integrated data sharing.

2.5. Coordination, collaboration and shared services among humanitarian stakeholders

Case studies: 2014 Western Africa Ebola outbreak and 2010 Haiti earthquake

Coordination

As mentioned previously, considerable efforts have been made since the Indian Ocean tsunami to increase the coordination of humanitarian supply chain actors. However, it is evident in recent crises that the number of actors is dramatically increasing, both in the international community and, perhaps more positively, in the national community. The diversity of actors is also changing, as we observe an increasing military presence in humanitarian response, civil society actors and the local private sector. This puts a strain on the coordination system and mechanisms that have so far been developed.

Nowhere was this more evident than in the Haiti 2010 earthquake response, where more than 200 international organisations deployed simultaneously. The core aims for coordination (including the elimination of duplication, the maintaining of standards, strategic information driven decision making, and prioritisation), were greatly impaired by the scale of response but, more so, by the sheer number

of actors involved. This could also be seen, albeit on a smaller scale, in the Nepal 2015 earthquake response where from one day to the next the fluctuations in the composition and number of actors in the Logistics Cluster meetings significantly challenged the coordination efforts.

Collaboration and Shared Services

We have pointed out the supply chain's bullwhip effect during the Ebola outbreak response as one of the logistical challenges faced during emergencies. However, the Ebola outbreak that began in Guinea on March 22, 2014, brought up many other logistical challenges. For example, the lack of air capacity to transport relief items to the affected countries pushed humanitarian stakeholders to come up with innovative solutions to solve the problem. An Air Coordination Cell (ACC) was organised by the Logistics Cluster and hosted by the United Nations Children's Fund (UNICEF) Supply Division.

There are many different models of shared and common service provision that have evolved in recent years with a wide range of actors involved, including, but by no means limited to:

- United Nations Humanitarian Response Depot (UNHRD)
- Handicap International, Central African Republic
- International Organization for Migration (IOM), South Sudan
- United Nations Humanitarian Air Service (UNHAS)
- International Federation of Red Cross and Red Crescent Societies (IFRC) Logistics Management
- Humanitarian Procurement Centres (HPCs)
- Mission Aviation Fellowship (MAF)
- Standby Partners (various)
- Bioport warehouse, Lyon
- Australian INGO warehouse, Brisbane
- Médecins Sans Frontières (MSF) Logistique
- Logistics Cluster
- Emergency Telecommunications Cluster (ETC)

As yet, there have been no evaluations or comparative analyses carried out on any of the above mentioned common service provision models. The humanitarian supply chain sector could benefit from donor funding to support innovations and research on ways to collaborate to maintain cost effectiveness.

These and other collaborative models lead to the following two questions: ***How can we evolve our coordination with increasing numbers of actors, to maintain humanitarian standards and effectiveness?*** and ***How can the humanitarian sector rationalise our supply chains to meet increasing needs?***

Coordination

Coordination is greatly facilitated by knowing the response actors before a crisis. The need to know the actors on this increasing scale will drive us to evolve our methods and approaches to coordination

and to increase the preparedness of coordination at the local level. Expanding the establishment of local networks, for instance the example of World Bank supported local logistics practitioner networks, and aligning these to humanitarian preparedness scenarios, could greatly contribute to future response. The continued investment in strategic coordination and information management efforts is vital to achieve this as well as broader coordination outcomes.

Collaboration and Shared Services

As international organisations evolve to meet a different humanitarian future, there are opportunities to further share, consolidate and rationalise their operations. One size does not fit all, and the success of shared services will almost certainly lie in more examples and models rather than fewer, but to reduce the costs of operations and be able to meet increasing demands, the international organisations will need to radically rethink their supply chains to survive and to thrive. One article which challenges us on this suggests: “Whatever the future holds, the idea that each INGO needs to have their own separate office and logistics to deliver missions that are increasingly seen as overlapping is implausible.” (Toby Porter, HelpAge International, DevEx, January 2016).

3. CONCLUSIONS

We have examined five very different case studies to highlight a number of critical issues facing the future of humanitarian operations and the supply chain which supports and enables them:

- Strengthening local response
- Markets and Cash based programming
- Access to beneficiaries during complex emergencies
- Engagement of the private sector in humanitarian operations
- Common services and coordination among humanitarian stakeholders

The questions posed to us by each case study have stimulated a range of recommendations to address the needs of the global humanitarian future. However, in addition to the recommendations already made, there are a number of other areas which are critical to enabling these actions to progress.

Changing how we fund: This paper recommends new and innovative investments in deliberate and strategic preparedness for future response. Our current funding model, distinguishing “Development” and “Humanitarian” activities is no longer fit for purpose. If we are to make strategic and sustainable investments in preparedness, we need to rethink this funding paradigm and enable more creative activities which don’t naturally fit in the current boxes. As well as increasing humanitarian spending on preparedness, we also need to tap the potential in other funding including aligning infrastructure development work towards achieving resilience goals and leveraging private sector spend towards humanitarian outcomes.

Humanitarian financing, models and aid efficiency should not only be discussed at the World Humanitarian Summit. Since a significant proportion of humanitarian financing currently is from institutional donors, and 60 to 80 per cent of cost lie in the supply chain, it is the recommendation of this study that a cross-sector think tank on humanitarian financing be established. This forum would create a new dialogue between the institutional donor community and supply chain implementers.

Changing our own silos: Further to the funding separation, many international organisations still maintain an inherent structural separation of humanitarian and development programmes and operations, which can inhibit the extent to which our thinking, design and implementation considers the spectrum as a whole. If we are to enable new, more integrated working with vulnerable countries, we must also change our internal structures and strategies around this.

Assuring safe access: The paper references the impact of security on supply chain operations and operators in meeting beneficiary needs. The time and financial costs of this cannot be understated and, with complex crises by no means declining, there is a need for states as duty bearers to recommit to ensuring safe access to affected populations. Additionally, humanitarian organisations should work

to ensure their supply chains have the agility to react to changing supply chain contexts. Furthermore, we call on the humanitarian community to provide a seat at the table during security discussions as access constraints have cost implications for supply chains as well as beneficiaries.

Strengthening Local Networks: The paper also touches on the challenges ahead to maintain and improve coordination and collaboration in an increasingly populous and complex aid community. As well as the recommendations made above, there is a need to further expand multi-sector local logistics networks, which would bring together the private, public, local civil society and other logistics practitioners. These networks would need support to bring preparedness onto their agenda and scenario plan for future responses. These networks should not be explicitly 'humanitarian' networks, but, as resonated earlier in the paper, break down those silos of humanitarian and non-humanitarian and private sector groups to form a function-oriented community of practice. These networks will also be crucial in expanding the national human resource pool of logisticians available to respond. However, as much as we should first and foremost strengthen national capacity to respond to crises, we cannot ignore the need for complementary international support, whether from neighbouring countries or further afield. As such, it needs to be recognised that there is a critical human resource gap in the humanitarian logistics community, whereby demand is significantly exceeding the available professional resources. It is a recommendation of this report that the international humanitarian actors develop a collaborative **Resource Strategy for Humanitarian Logistics**, to create global, agile capacity. This strategy would forecast future demands and consider creative solutions to build national, regional and global responders. Bridging sector and organisational boundaries, this approach will ensure that national response is effectively, professionally and consistently strengthened by international logistics support.

Innovation to Collaborate: Many organisations are looking to rationalise their operational and back office costs and to collaborate and explore shared services models. However, there is a need to grow our experience base and examples of good practice to draw from here, demonstrating strong proof of concept models for the sector. This paper recommends a new Shared Services Innovation Fund be established to support organisations big and small, national and international, to experiment with new ways of working and learning from other sectors and to sustainably cut their costs.

This is by no means an exhaustive list of issues facing the HSC. While much depends on emergency contexts and external factors, we feel that much can be undertaken to improve humanitarian supply chains. This paper is intended to open the debate, stimulate further discussions and generate ideas for improvements, future research and strategic investments in humanitarian operations and supply chains. **Most importantly, we hope that the paper will inspire commitment from all humanitarian stakeholders to assist with improving the efficiency, cost effectiveness and agility of humanitarian supply chains, and ultimately benefit affected populations.**

ACKNOWLEDGEMENTS

This report was written by Sara Guerrero-Garcia (Kuehne Logistics University), Jean-Baptiste Lamarche (ACF), Rebecca Vince (Plan International), Stephen Cahill (WFP) and Maria Besiou (Kuehne Logistics University). Additional writing and editing support was provided by Hamza Mohmand (WFP) and Jessica Cochran (WFP).

The authors would like to express their appreciation for the inputs given by the steering committee, which was established in January 2015 by the Humanitarian Logistics Association (HLA). The committee, aiming to analyse the challenges of the humanitarian supply chain as well as its future direction, triggered the idea of writing this report. The steering committee is comprised of Jean-Baptiste Lamarche (ACF-France, representing the committee of French logisticians from non-governmental organisations), Juan-Alfonso Lozano-Basanta (ECHO), Isabelle de Muysier-Boucher (OCHA), Alvaro Villanueva (ACF Spain), George Fenton (World Vision International), Wolfgang Herbinger (WFP), Maggie Heraty (Independent Humanitarian Consultant) and Rebecca Turner (Independent Humanitarian Consultant).

Furthermore, the authors are extremely grateful to the people who shared their opinions and expressed their views through interviews, written submissions and consultations. This report has benefited enormously from their guidance and insights. Thanks to Jérôme Aubry (Bioport), Virginie Bohl (OCHA), Baptiste Burgaud (WFP), Bernard Chomilier (WFP), Erland Egiziano (MSF), Dorte Friis (WFP), Sherif Georges (WFP), Maxence Giraud (Handicap International), Mike Goodhand (British Red Cross), Aaron Holmes (Independent Consultant), Ionut Homeag (DG-ECHO), Mats Hultgren (UNHCR), Helene Juillard (Independent Consultant), Mirjana Kavelj (WFP), Christophe Le Houedec (Amazon), Theo Lingens (THW), Daniel Link (University of Muenster), Yvette Madrid (GS1), Didier Merckx (DG-ECHO), Benoît Miribel (Fondation Mérieux), Hamza Mohmand (WFP), Kathrin Mohr (DeutschePost DHL), Nick Murdoch (DHL), John Myraunet (WFP), Birgitte Olsen (IFRC), Alexis Ottenwaelter (ACF), Geoffroy Perrier (ACF), Antonin Petr (DG-ECHO), Sean Rafter (HELP Logistics, a program of the Kuehne Foundation), Josef Reiterer (OCHA), Isabelle Sechaud (IFRC), Benoît Silve (Silve Conseil), Jonny Spence (Plan International), Simon Stermann (DG-ECHO), Peter Tatham (Griffith University), Nils Van Wassenhove (WFP), Bruno Vandemeulebroecke (Welthungerhilfe) and, Roy Williams (Tradeteam).

Finally, the authors would like to thank ACF International, Bioforce, Fondation Merieux, Handicap International/Atlas Logistics, HELP Logistics (a program of the Kuehne Foundation), Oxfam Intermon, World Vision and World Food Programme for funding this initiative. This project would not have been possible without their generosity.

REFERENCES

- Argollo da Costa, S., Bandeira, R., Mello, L. C., & Campos, V. (2014). Humanitarian supply chain: an analysis of response operations to natural disasters. *European Journal of Transport and Infrastructure Research*, 14(3), 290–310.
- BCG. (2015). UNICEF/WFP Return on Investment for Emergency Preparedness Study. Retrieved from <http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp272225.pdf>.
- British Red Cross. (2016). *Nepal: Preparing for Earthquakes*. Retrieved from <http://www.redcross.org.uk/What-we-do/Preparing-for-disasters/Nepal-preparing-for-earthquakes>.
- Burgaud, B. (2016a, March 8). Interview by S. Guerrero-Garcia [Audio]. Skype Call.
- Burgaud, B. (2016b, April 6). Interview by S. Guerrero-Garcia [Audio]. Skype Call.
- Cabot Venton, C., Bailey, S., & Pongracz, S. (2015). Value for Money of Cash Transfers in Emergencies: Ethiopia Case Study. Retrieved from <http://www.cashlearning.org/downloads/summary-vfm-cash-in-emergencies-report-final.pdf>.
- Consortium of British Humanitarian Agencies. (2016). *Core Humanitarian Competencies Framework: Keeping crisis-affected people at the centre of what we do*. Retrieved from <http://www.start-network.org/wp-content/uploads/2014/01/Core-Competencies-Framework.pdf>.
- Development Initiatives. (2015). Global Humanitarian Assistance Report 2015. Retrieved from http://www.globalhumanitarianassistance.org/wp-content/uploads/2015/06/GHA-Report-2015-Interactive_Online.pdf.
- DFID. (2013). The Economics of Early Response and Resilience Series: Summary of Findings. Retrieved from http://r4d.dfid.gov.uk/pdf/outputs/Hum_Response/61114_Summary_of_Findings_Final_July_22.pdf.
- ECHO. (2016a). EU Civil Protection Mechanism. Retrieved from http://ec.europa.eu/echo/what/civil-protection/mechanism_en.
- ECHO. (2016b). Humanitarian Procurement Centres. Retrieved from http://dgecho-partners-helpdesk.eu/actions_implementation/procurement_in_humanitarian_aid/hpc.
- ECHO. (2016c). *Towards the World Humanitarian Summit: The European Commission's vision to reshape aid*. Retrieved from http://ec.europa.eu/echo/partnerships/european-and-international-cooperation/world-humanitarian-summit_en.
- EM-DAT. (2015). The International Disaster Database: Centre for Research on the Epidemiology of Disasters - CRED. Retrieved from <http://www.emdat.be/database>.
- ETC. (2016). *Services*. Retrieved from <https://www.etcluster.org/services>.
- Georges, S. (2016, April 13). Interview by S. Guerrero-Garcia [Word Document].
- Global Logistics Cluster. (2015). *Annual Report 2014*. Retrieved from http://www.logcluster.org/sites/default/files/logisticscluster_2014annualreport_web.compressed.pdf.
- High-Level Panel on Humanitarian Financing. (2016). Too important to fail- addressing the humanitarian financing gap. Report to the Secretary-General. Retrieved from [https://docs.unocha.org/sites/dms/Documents/\[HLP%20Report\]%20Too%20important%20to%20fail%E2%80%94addressing%20the%20humanitarian%20financing%20gap.pdf](https://docs.unocha.org/sites/dms/Documents/[HLP%20Report]%20Too%20important%20to%20fail%E2%80%94addressing%20the%20humanitarian%20financing%20gap.pdf).
- ICRC. (2016). *ICRC calls for immediate and simultaneous lifting of all sieges across Syria*. Retrieved from <https://www.icrc.org/en/document/syria-now-call-lifting-sieges-madaya-foua-kefraya>.

- Kovács, G., & Tatham, P. H. (2010). What is Special About a Humanitarian Logistician? A Survey of Logistic Skills and Performance. *Supply Chain Forum: An International Journal*, 11(2), 32–41.
- Margolies, M., & Hoddinot, J. (2014). Costing alternative transfer modalities. *Journal of Development Effectiveness*, 7(1), 1–16.
- Mcavoy, K. & Kase, T. (2014). *Suppliers Strain to Meet Demand for Protective Medical Suits as Ebola Epidemic Continues*. Retrieved from <https://spendmatters.com/2014/12/01/suppliers-strain-to-meet-demand-for-protective-medical-suits-as-ebola-epidemic-continues/>.
- NBP. (2014). *CSR Initiatives: Health*. Retrieved from <https://www.nbp.com.pk/csr/Health2014.aspx>.
- OCHA. (2016). *Syrian Arab Republic: Key Figures*. Retrieved from <http://www.unocha.org/syria>.
- ODI. (2015). Doing cash differently: How cash transfers can transform humanitarian aid. Report of the High Level Panel on Humanitarian Cash Transfers. Retrieved from <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9828.pdf>.
- Olsen, B. (2016, April 19). Interview by S. Guerrero-Garcia [Audio]. Phone call conversation.
- Pelly, I., Wild, D. de, & Inarra, C. (2015). *Philippines Haiyan Response- A multi-sectoral review of the use of market analysis and the design and implementation of CTPs*. Retrieved from <http://www.cashlearning.org/downloads/phl-ctp-final.pdf>.
- Poisson, G. (2011). *Cash Transfer Programming in Emergencies: Cash Transfer Mechanisms and Disaster Preparedness in the Philippines*. Retrieved from http://www.cashlearning.org/downloads/resources/calp/Cash%20Transfer%20Mechanisms%20in%20the%20Philippines_web.pdf.
- POMS. (2015). *Twenty Sixth Annual Conference*. May 8 -May 11. Washington, D.C.
- Porter, T. (2016). *Can we future-proof our NGOs?* Retrieved from <https://www.devex.com/news/can-we-future-proof-our-ngos-87596>.
- Schlein, L. (2015). *Conflict in Yemen Blocks Humanitarian Aid*. Retrieved from <http://www.voanews.com/content/yemen-insecurity-blocks-humanitarian-aid/2847851.html>.
- Svoboda, E. (2015). Strengthening access and proximity to serve the needs of people in conflict. Retrieved from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9737.pdf>.
- Tatham, P. H., & Pettit, S. J. (2010). Transforming humanitarian logistics: The journey to supply network management. *International Journal of Physical Distribution & Logistics Management*, 40(8/9), 609–622. doi:10.1108/09600031011079283.
- The Guardian. (2005). *Tsunami report criticises relief effort*. Retrieved from <http://www.theguardian.com/world/2005/oct/05/internationalaidanddevelopment.tsunami2004>.
- Thomas, A., & Mizushima, M. (2005). Logistics training: necessity or luxury? *Forced Migration Review*. (22), 60–61.
- Tomasini, R., & Van Wassenhove, L. N. (2009). *Humanitarian Logistics* (1st ed.). Great Britain: Palgrave Macmillan.
- UN. (2016). Introductory Remarks by the Assistant Secretary-General for Humanitarian Affairs and Deputy Emergency Relief Coordinator, Kyung-wha Kang. Humanitarian Networks and Partnership Week, Geneva, Switzerland. Retrieved from <https://docs.unocha.org/sites/dms/Documents/ASG%20Kang%20Introductory%20remarks%20HNPW%201%20February%202016.pdf>.
- UN News Centre. (2016). *Yemen: UN humanitarian chief urges civilian protection, access to all parts of country*. Retrieved from <http://www.un.org/apps/news/story.asp?NewsID=53362#.VwZpnqR96Uk>.

- UNDP. (2012). *Putting Resilience at the Heart of Development: Investing in Prevention and Resilient Recovery*. Retrieved from [http://www.undp.org/content/dam/undp/library/crisis%20prevention/disaster/asia_pacific/1206_undp_en_out%20\(%20in%20English\).pdf](http://www.undp.org/content/dam/undp/library/crisis%20prevention/disaster/asia_pacific/1206_undp_en_out%20(%20in%20English).pdf).
- UNDP. (2015). *World Leaders Adopt Sustainable Development Goals*. Retrieved from <http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/09/24/undp-welcomes-adoption-of-sustainable-development-goals-by-world-leaders.html>.
- UNHAS. (2016). *UN Humanitarian Air Service* Retrieved from <http://www.wfp.org/logistics/aviation/unhas-current-operations>.
- UNHCR. (2016). *Syria Regional Refugee Response*. Inter-agency Information Sharing Portal. Retrieved from <http://data.unhcr.org/syrianrefugees/regional.php>.
- UNHRD. (2016). *About us*. Retrieved from <http://www.unhrd.org/page/about-us>.
- Van Wassenhove, L. N. (2006). Blackett Memorial Lecture, Humanitarian Aid Logistics: Supply Chain Management in a High Gear. *The Journal of the Operational Research Society*, 57(5), 475–489.
- Wall, I. (2015). *Gloves off between local and international NGOs*. Retrieved from <http://www.irinnews.org/analysis/2015/10/22>.
- WFP. (2015). *Nepal Opens First Humanitarian Staging Area, Built with Government & UK Aid Support*. Retrieved from <https://www.wfp.org/news/news-release/nepal-opens-first-humanitarian-staging-area-built-government-uk-aid-support>.
- WFP. (2016). *Philippines: Current issues and what the World Food Programme is doing*. Retrieved from <https://www.wfp.org/countries/philippines>.
- WFP and BFA (2015). *Partnering with Existing National Safety Nets for Emergency Payments: WFP's Collaboration with the Pantawid Pamilyang Pilipino Program in the Typhoon Haiyan Response*. Retrieved from <http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp276540.pdf>.
- WHS. (2015). *Restoring Humanity: Global Voices Calling for Action*. Synthesis of the Consultation Process for the World Humanitarian Summit. Retrieved from https://www.worldhumanitariansummit.org/whs_global/synthesisreport/.
- WHS. (2016). *FAQ* Retrieved from <https://www.worldhumanitariansummit.org/faq>.

LIST OF ACRONYMS

ACC	Air Coordination Cell
ACF	Action Contre la Faim
BCG	Boston Consulting Group
CSR	Corporate Social Responsibility
CTP	Cash Transfer Programming
DFID	Department for International Development
ECHO	European Commission's Humanitarian Aid and Civil Protection Department
ETC	Emergency Telecommunications Cluster
HPCs	Humanitarian Procurement Centres
HSC	Humanitarian Supply Chain
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IHOs	International Humanitarian Organisations
INGOs	International Non-Governmental Organisations
IOM	International Organization for Migration
NDMOs	National Disaster Management Offices
NGOs	Non-Governmental Organisations
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
MAF	Mission Aviation Fellowship
MSF	Médecins Sans Frontières
POMS	Production and Operations Management Society
PPE	Personal Protective Equipment
UN	United Nations
UNDP	United Nations Development Programme
UNHAS	United Nations Humanitarian Air Service
UNHCR	United Nations High Commissioner for Refugees
UNHRD	United Nations Humanitarian Response Depot
UNICEF	United Nations Children's Fund
UNSM T	United Nations Security Management Team
WFP	World Food Programme
WHS	World Humanitarian Summit

This paper has been kindly supported by:

ACF International

Bioforce

European Commission's Humanitarian Aid and Civil Protection Department

Fondation Merieux

Handicap International/Atlas Logistics

HELP Logistics (a program of the Kuehne Foundation) and Kuehne Logistics University

Humanitarian Logistics Association

Logistics Cluster

Oxfam Intermon

Plan International

United Nations Office for the Coordination of Humanitarian Affairs

World Food Programme

World Vision International