



Fritz
Institute

HUMANITARIAN LOGISTICS:

Enabling
Disaster Response

Anisya Thomas, Ph. D.
Managing Director, Fritz Institute

Humanitarian relief organizations (HROs) coordinate billions of dollars in relief annually to victims of natural disasters, civil conflict and war. Their chief task is the timely mobilization of financing and goods from international donors and administering relief to vulnerable beneficiaries at disaster sites across the globe. As such, logistics is central to their activities and strategic to their missions. Our research has shown, however, that environmental factors, such as the unpredictability of disasters, and the nature of funding have resulted in logistics operations with high employee turnover rates, fragmented technology, poorly-defined manual processes, and a lack of institutional learning over time. As a consequence, the role and significance of logistics is not well understood or appreciated in most HROs or by the donors who provide the financial support for relief.

Fritz Institute is a non-profit based in San Francisco whose mission is to strengthen the infrastructures of humanitarian relief organizations by mobilizing logistics and technology expertise and resources from the corporate and academic communities. This position paper provides background on the current state of logistics in the humanitarian environment and the factors that have limited the evolution of knowledge and the performance of supply chains for humanitarian relief. The paper then describes the approaches that Fritz Institute feels can move the field forward.

Humanitarian logistics has much in common with corporate logistics, yet the best practices from the corporate world, or from other humanitarian organizations in many cases, have not crossed over. It is paradoxical that a sector which has such extreme requirements in terms of timeliness, affordability and oversight is so underdeveloped. It is precisely this paradox that creates what we see as a great opportunity for advancement of the field and of the humanitarian mission.

The views presented here are based on extensive research conducted by Fritz Institute over the past year. Our team spent over 3,000 hours interviewing the entire logistics team, as well as key functions that interact closely with logistics such as desk officers, operations managers, finance and IT at the International Federation of Red Cross and Red Crescent Societies (IFRC) as part of a requirements gathering exercise for the development of a new logistics information software. Subsequently we visited 12 leading humanitarian relief organizations (see Table 1) at their headquarters and in the field, to understand and map their relief logistics processes. Finally, we brought the heads of logistics of these and other HROs together with leading supply chain professors at a Humanitarian Logistics Conference for two days to discuss the research, validate our results about their pain points, and give input to the path forward ¹.

Table 1: Snapshot of Select Humanitarian Organizations

| Name of Organization | Total Contributions 2000 (US\$) ¹ | Total Contributions ² 2001 (US\$) | Countries of Operation ³ |
|---|---|---|--|
| American Red Cross ⁴ | \$ 738.0 | \$ 763.0 | 38 |
| CARE USA | 446.3 | 421.0 | 60 |
| Catholic Relief Services | 373.2 | 334.4 | 92 |
| International Committee of the Red Cross | 557.5 | 553.1 | 80 |
| International Federation of Red Cross and Red Crescent Societies | 223.7 | 189.7 | 178 |
| International Rescue Committee | 148.4 | 147.7 | 28 |
| Medecins San Frontiers - Belgium | 313.8 | 322.0 | 42 |
| Oxfam UK | 294.6 | 298.1 | 75 |
| Save the Children | 140.3 | 171.8 | 45 |
| UNICEF | 1139.0 | 1225.0 | 126 |
| World Food Programme ⁵ | 1490.0 | 1873.1 | 82 |
| World Vision International ⁶ | 964.2 | 1036.0 | 96 |
| | \$ 6829.0 | \$ 7334.9 | |

Notes:

Source: Primary research with organizations and published annual reports

(1) Shown in U.S. dollars. Exchange rates from US \$ to Euros as of year-end for 2000 is \$1 = 1.0747 Euros, and for 2001 is \$1 = 1.1047 Euros.

Source: IMF

(2) Contributions refers to donations to humanitarian organizations by governments, foundations, other humanitarian organizations, individuals, and the private sector

(3) As per most recent annual report

(4) American Red Cross total contributions exclude revenue from products and services

(5) World Food Programme receives 54% of food contributions in the form of GIK

(6) World Vision International's 2000 financial statements are not available online. WV USA's contributions for 2000 totaled \$469.1M

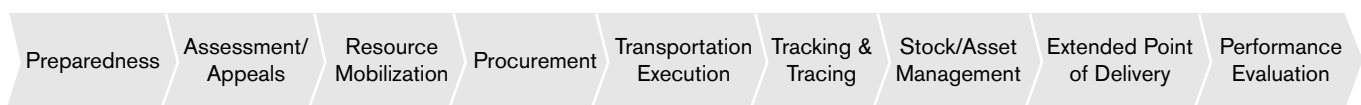
¹Humanitarian Logistics Council meeting, Geneva, January 30-31, 2003. A list of participating organizations at this meeting is provided in Appendix 1.

The Scope and Importance of Humanitarian Logistics

Humanitarian Logistics refers to the processes and systems involved in mobilizing people, resources, skills and knowledge to help vulnerable people affected by natural disasters and complex emergencies. Humanitarian logistics encompasses a range of activities, including procurement, transport, tracking and tracing, customs clearance, local transportation, warehousing and last mile delivery (see Figure 1).

Logistics is central to disaster relief for several reasons. First, it serves as a bridge between disaster preparedness and response, between procurement and distribution, and between headquarters and the field. Second, it is crucial to the effectiveness and speed of response for major humanitarian programs, such as health, food, shelter, water and sanitation. It can be one of the most expensive parts of a relief effort. Third, since the logistics department handles tracking of goods through the supply chain, it is often the repository of data that can be analyzed to provide post-event learning. Logistics data reflects all aspects of execution, from the effectiveness of suppliers and transportation providers, to the cost and timeliness of response, to the appropriateness of donated goods and the management of information. Thus, it is critical to the performance of both current and future operations and programs.

Figure 1. The Supply Chain for Humanitarian Relief



Humanitarian Organizations and their Missions

Every year, there are approximately 150,000 deaths and 200 million people affected by natural disasters and humanitarian crises. Natural disasters alone, which include events such as earthquakes, famines and floods, result in the temporary displacement of approximately five million people. The number of displaced people from humanitarian crises such as civil conflict and war is even larger, with an average of 13 million refugees and 20 million internally displaced people each year. As the relief arm of the global community, humanitarian organizations are the front line of assistance for people affected by natural and complex emergencies.

Humanitarian organizations, whose missions center on minimizing loss of life and alleviating suffering, are the primary vehicle through which governments channel as much as \$6 billion in annual aid². Complementing government donations to humanitarian organizations are contributions from foundations, individuals, and the private sector. The humanitarian organizations receiving donations from this global community include entities operating under the United Nations umbrella such as the World Health Organization (WHO) and the United Nations High Commissioner for Refugees (UNHCR), international organizations such as the International Federation of Red Cross and Red Crescent Societies (IFRC), and global non-governmental organizations (NGOs) like CARE and World Vision, as well as regional and country-specific NGOs³. The following snapshot provides detail on 12 of the world's leading humanitarian organizations that in 2001 each raised over \$100 million and conducted international operations in over 25 countries. As a group, these organizations put over \$7 billion in resources towards the alleviation of suffering of beneficiaries across the world.

² *Financing International Humanitarian Action: A Review of Key Trends*, Humanitarian Policy Group briefing paper, November 2002.

³ In this report we focus primarily on global humanitarian organizations, those that have a presence in more than 40 countries and are generally present in most major disasters and humanitarian crises.

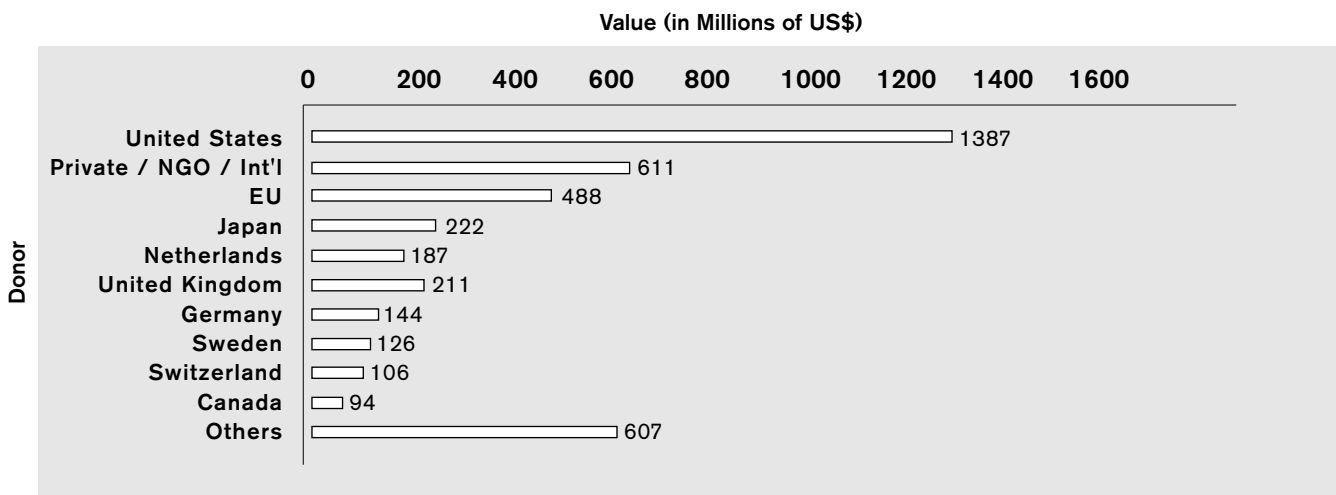
Most global humanitarian organizations engage in a mix of development and relief activities⁴. Relief refers to the emergency food, shelter and services provided in the immediate aftermath of a natural or man-made disaster. An example of relief would be the efforts by the various humanitarian organizations to assist the victims of the Gujarat earthquake in January 2001. By contrast, development refers to the longer-term aid aimed at creating self-sufficiency and sustainability of a community. An example of a development program would be the Area Development Programs executed by World Vision India to feed and school children and teach women basic business skills in the slum areas outside Chennai in southern India.

Donor Pressure on Humanitarian Relief Organizations

The environment that humanitarian organizations operate in is greatly influenced by a set of major donors. Prominent among these donors are the United States (USAID: United States Agency for International Development) and the EU (ECHO: European Commission Humanitarian Office) whose contributions have represented roughly 33% and 10% of total humanitarian aid, respectively, in recent years. A look at the flows of humanitarian funding over the last decade helps to translate these percentages into dollar terms. The period from 1990 to 2000 saw total humanitarian aid from governments double in real terms from approximately \$2.1 billion to \$5.9 billion⁵. Humanitarian aid by governments in 2001 and 2002, although below the levels of aid in 2000, totaled over \$4 billion in annual contributions. The simultaneous humanitarian crises in Africa, Afghanistan and Iraq in 2003 suggest that the budgets for humanitarian aid will be the highest to date.

Figure 2 outlines the major donor nations over the past two calendar years.

Figure 2. Top 10 Donors in 2002



Source: Compiled by OCHA based on information provided by appealing agency

In a recent report, the Humanitarian Policy Group identified trends in donor spending and priorities, which in turn influence the activities of the organizations that they fund. Prominent among these were an increased concentration on funding visible emergencies, increased competition among humanitarian organizations for donor funding and an increased demand for collaboration among humanitarian organizations operating in the

⁴ For purposes of this report, the focus will be on disaster relief in the aftermath of a natural disaster or humanitarian emergency. Although we acknowledge the critical importance of development, the dynamism and velocity of the relief scenario present specific exigencies which merit investigation.

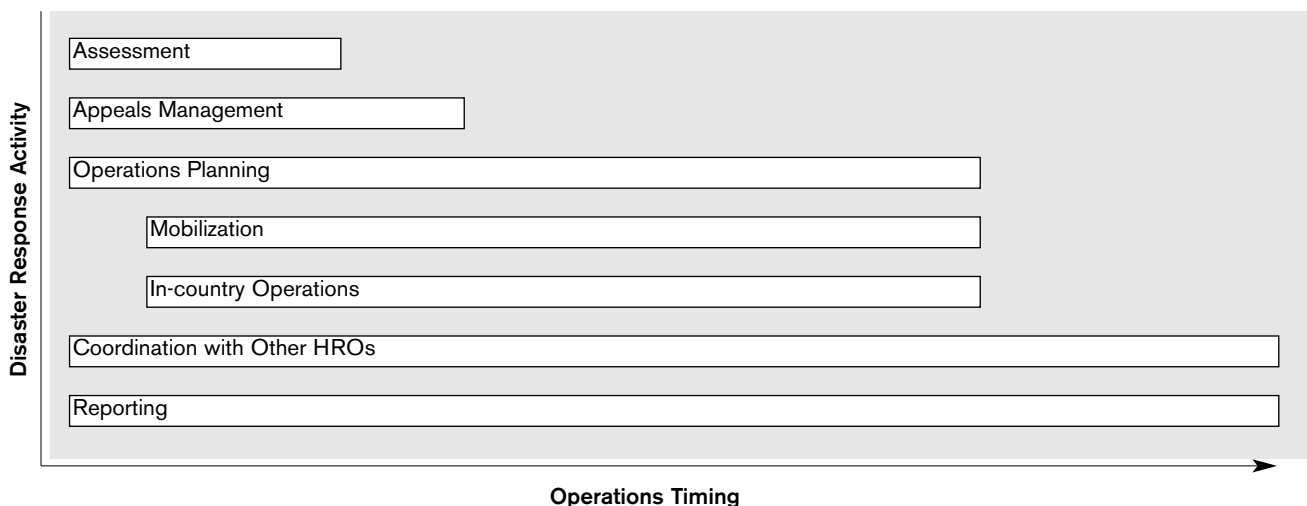
⁵ *Financing International Humanitarian Action: A Review of Key Trends*, Humanitarian Policy Group briefing paper, November 2002.

same disasters or regions to reduce duplication of effort. As a consequence of these priorities, humanitarian organizations have become more aware of their need to strategically use their resources, to be efficient in addition to being effective and to align their operations around core competences.

Humanitarian Logistics: Challenges and Opportunities

Figure 3 depicts the major activities that comprise a disaster response operation. While the level of preparedness and planning may vary depending on the nature and speed at which a disaster or emergency occurs, the logistical challenges are always complex and daunting. As a relief operation unfolds, in the immediate aftermath of a natural disaster, such as an earthquake, or humanitarian emergency like Afghanistan or Kosovo, the conditions under which a humanitarian organization’s staff must work are extremely chaotic. Physical infrastructure such as roads, bridges and airports are often destroyed. National and local government, through which humanitarian organizations must often coordinate their activities, may be severely impacted, or even uprooted in the case of a conflict situation. Transport capacity may be extremely limited, or non-existent.

Figure 3. Major Activities within a Disaster Response Operation



Within a given disaster response operation, knowledge and decisions from each area of activity drive and constrain logistics efforts, as follows:

- **Assessment:** At the time that a disaster strikes, humanitarian organizations work to quickly and accurately ascertain the supplies required to meet the relief needs of an affected population. Typically, an assessment team with individual expertise in areas such as water/sanitation, health care, and nutrition, is dispatched to the disaster area, usually within the first 24 hours of a crisis. Logisticians estimate needs based on early rough projections of numbers of beneficiaries that may swing wildly in either direction as new information emerges.
- **Appeals Management:** A preliminary appeal for donations of cash and relief supplies is launched often within 36 hours of the onset of the disaster. This appeal is the basis for large-scale mobilization of supplies.

If donors do not respond and the appeal is under-funded, relief cannot proceed. The type and quantity of relief supplies needed are published to a mobilization table (a spreadsheet) that is used to track donations against demand. Since donations may be either in cash or in-kind, logisticians must work with donors to insure that in-kind donations are appropriate and useful to the relief need. Simultaneously, any pre-positioned supplies available to the organization are assessed, and procurement activities are begun as necessary.

- **Operations Planning:** Coordination of the distribution of relief supplies with other relief activities, such as infrastructure repair and construction of field hospitals, is critical to making it effective. Constraints such as the political situation and weather or safety issues are likely to impact planning.
- **Mobilization:** International transport capacity is mobilized and supplies are sent directly to the afflicted country, where relief aid must clear customs and then be transported by local transport to warehouses nearest the disaster site. Note that the success of these supply chain execution functions hinges as much on timely information as it does on assets. The activities of each function must be closely tied with the function downstream to avoid delays at handoff points in the logistics network.
- **In-country Operations:** Once supplies arrive at the local port of entry, an organization's in-country staff becomes the primary mechanism for the distribution of goods to beneficiaries. However, in-country/local distribution, where order accuracy must again be verified, goods received notices generated, and beneficiaries provided for, is not the end of a given disaster response. As with all functions in the disaster response process, performance must be measured and lessons learned in the field must be codified for use in improving organizational efficiency in future programs.
- **Coordination with Other HROs:** For major disasters hundreds of organizations work at the disaster site, all seeking to set up facilities and infrastructure, and to move supplies and people in and out. Congestion may limit availability of relief supplies, as happened during the Gujarat earthquake when one main airport with few officials, trucks, and warehouses served as the entry point for 50 organizations flying in goods over a period of 10 days. Competition for locally available commodities and services, such as for lodging and vehicle purchase/lease, has been known to drive prices up by a factor of 10 compared to normal conditions.
- **Reporting:** Reports serve as a coordinating mechanism as operations unfold, and as a means to monitor effectiveness of relief during and at the close of an operation. Early reporting to the media can also demonstrate effective action, and thereby increase pledge contributions. Reporting also meets donors' needs to inform their own constituencies about their activities. Timely reporting is critical, yet difficult to achieve, given the lack of information systems and communications infrastructure at disaster sites. Reporting is also hampered by a lack of training of field employees.

One need look no further than the relatively recent disaster in Gujarat, India to get a sense of the difficulty faced by humanitarian organizations in administering relief in disaster situations and of the positive impact humanitarian organizations can have on beneficiaries. On January 26th, 2001, a 7.9 Richter earthquake struck Gujarat, where 41 million people were preparing to celebrate India's 50 years of independence. Thousands of people were killed, the local airport was destroyed, the infrastructure severely damaged, and very little information was available in the early stages of the disaster. Nonetheless, within the first 30 days of the earthquake, along with the assistance of 35 partner organizations, the International Federation of the Red Cross's Logistics Emergency Unit arranged the delivery of 255,000 blankets, 34,000 tents, 120,000 plastic sheets, and large quantities of other items such as kitchen sets. More than 300 other global, regional, national and local NGOs and UN agencies similarly mobilized their staffs and resources.

Faced with unpredictable and uncontrollable conditions such as these, logisticians must continue to operate, relying on innovativeness and ingenuity, all the while knowing that the survival of vulnerable people depends on the timely arrival and distribution of relief supplies. Bernard Chomilier, the head of logistics for the IFRC described this difficult job in the following manner: “You do not know what you need, you do not know where you need it, but you have to get it there in a short amount of time under chaotic conditions or people will die.” In other words, logisticians must get the right goods, to the right place, at the right time, within the boundaries of a budget that has yet to fully materialize.

Pain Points

At a January, 2003 meeting in Geneva, heads of logistics at leading HROs expressed frustration about five “pain points” that impede progress in humanitarian logistics. The first of these is the **nature of the funding process**. Donor scrutiny over the usage of funds – concern that contributions flow directly through to beneficiaries – combined with earmarking of donations for particular relief operations, drives HROs to focus on direct relief rather than investing in systems and processes that will reduce expenses or make relief more effective over the long-term. Thus, operational disaster response approaches are encouraged by the funding mechanism and strategic disaster preparedness opportunities are discouraged. This results in an underinvestment in infrastructure such as information systems and warehousing facilities, and a reluctance to preposition inventory to improve responsiveness.

Organizational culture and high employee turnover also deter improvement. In general, humanitarian organizations are defined by their personnel, who share a common value system relating to the alleviation of suffering of victims of disasters and humanitarian emergencies. People who choose a career in this world come from diverse and varied backgrounds. Our sample of head logisticians included an actor, an osteopath, an extreme sports enthusiast, a nurse and a country manager. These people are driven by a desire to resolve crises and do good in the world; neither their backgrounds nor their values are geared toward process improvement.

The organizational culture and high employee turnover create an environment in which there is a **lack of institutional learning**. Once a crisis is dealt with, humanitarian heroes are immediately assigned to the next mission, rather than taking the time needed to reflect and improve. Or they leave. Input from the organizations we interviewed suggested that turnover of field logistics personnel was as high as **80% annually**. Thus, while logisticians have a remarkable track record for getting the job done under the most adverse and extreme circumstances, the lessons learned from one disaster to the next are often lost. The experience of the occasional veteran logistician is largely tacit and difficult to communicate to the next generation nor is it transferred from one field context to another.

With the emerging competition for funding among major relief organizations, the heads of logistics tend to each fight their own battles with **little collaboration**. Although many of them face the same challenges and know each other, or of each other, they do not often meet or talk to one another except in an actual disaster. For example, we found that several of them were thinking of deploying a regional warehouse structure for faster response. Coincidentally, three were actually talking with warehouse providers in the same city. Similarly, two others had commissioned expensive analyses to select a fleet management system and three were wrestling with the idea of a training program for field logisticians. None knew that their counterparts had the same objectives and, therefore, there was little collaboration or resource sharing.

The last pain point is **ineffective leveraging of technology**. While the technology exists for creating the desired IT solutions, funding constraints and organizational culture have impeded systems development. Although many relief logistics departments rely on manual systems, it is widely recognized that these are inadequate and inefficient. Yet the humanitarian world is rife with failed implementations of centralized commercial ERP systems that supported finance or human resource needs well, but lacked the flexibility to cope with the chaos and dynamism of procurement and warehousing in disaster situations. For example, a standard ERP system could not accommodate tracking of unsolicited canned food donations from collections outside French grocery stores to an earthquake relief site in Gujarat, nor the purchase of donkeys at local markets for hauling relief supplies in war-torn Afghanistan.

The Path Forward: Making Logistics Strategic

What would it require for logistics to express itself fully and strategically? To move forward, humanitarian logistics organizations must address structural factors – funding constraints, organizational culture, and employee turnover – that have impeded investment and reinforced a short-term operational focus. At the same time, they must articulate how logistics can be approached with a long-term perspective in which the organization collaborates with other HROs and leverages technology to facilitate ongoing learning and measurable improvement, thus contributing directly towards responding to donor pressures to increase relief effectiveness.

Today's underdeveloped state of logistics in the humanitarian sector is much like corporate logistics was 20 years ago. At that time, corporate logistics suffered from underinvestment, a lack of recognition, and the absence of a fulfilling, professional career path for people performing the logistics function. Over the last 20 years, corporate logistics has found its voice with top management. Under the rubric of supply chain management it has established itself as a core discipline whose best practices are taught and researched at top business schools and promulgated by leading consulting firms.

We contend that the same approaches pursued by corporate logistics can give humanitarian logistics a voice. Thus, humanitarian logistics must focus on five areas, as follows:

- Establishing a **community of practice** will enable humanitarian logisticians to share knowledge and experience on common issues and to work together to create one voice with donors and partners.
- Formalizing **knowledge management** will overcome, to some extent, the lack of institutional knowledge that occurs because of high employee turnover by capturing and disseminating knowledge in an organized way.
- Developing **flexible technology solutions** will improve responsiveness by creating visibility of the materials pipeline and increasing the effectiveness of people and processes. Furthermore, advanced information systems will create the infrastructure for knowledge management, performance measurement and learning.
- Focusing on **metrics, performance measurement and learning** capabilities will empower logisticians to continuously improve the effectiveness of relief operations – and so create the powerful story that is needed to overcome funding constraints – to convince donors that investing general funds in disaster preparedness is a wise use of funds and will have greater impact at less cost than funding a narrower range of activities.

- **Effective use of voice** will enable logisticians to create awareness of the contribution that logistics makes and to obtain needed resources.

These five approaches address the pain points described in the last section, either directly or indirectly, as shown in Table 2.

Table 2. Five Imperatives for Humanitarian Logistics and the Pain Points they Address

| Strategies | Points of Pain | | | | |
|-----------------------------------|-------------------|-------------------------------|----------------------|--------------------------------|--------------------------------------|
| | Nature of funding | Culture and employee turnover | Little collaboration | Lack of institutional learning | Ineffective leveraging of technology |
| Community of practice | ✓ | | ✓ | ✓ | ✓ |
| Knowledge management | | ✓ | ✓ | ✓ | |
| Flexible technology solutions | ✓ | ✓ | ✓ | ✓ | ✓ |
| Metrics, measurement and learning | ✓ | | | ✓ | |
| Effective use of voice | | | | ✓ | ✓ |

In the remainder of this section we will elaborate on each of the five areas.

Community of Practice: A community of practice is a group of people united by a common effort that interact and share knowledge and work practices. Creating a forum where humanitarian logisticians can meet each other and discuss their challenges and best practices would facilitate shared knowledge and provide a knowledge pool that could be drawn upon. The community may also decide to work to create common standards, guidelines and/or service requirements that can then be communicated with one voice to donors, technology partners, suppliers, and logistics service providers.

Other specific areas of opportunity to act as a community include:

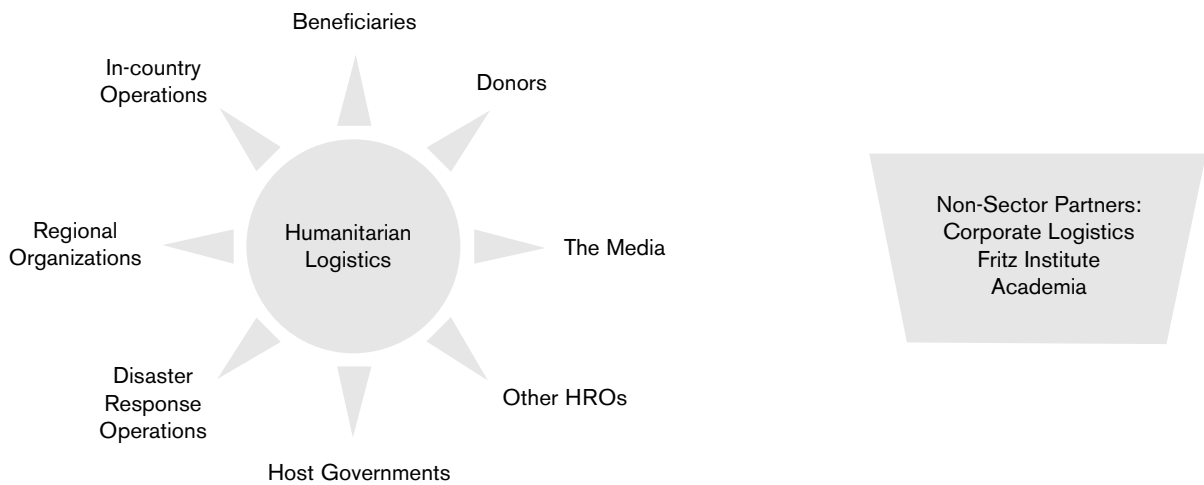
- Vulnerability assessments to identify disaster preparedness strategies
- Work with the private sector in the region to leverage resources and infrastructure
- Analysis of transportation routes and joint contracting for transportation to reduce rates
- Joint investment in common information systems
- Development of a network of knowledgeable and competent employees in the field

In contrast to the humanitarian sector, corporate logisticians participate in multiple communities of practice. The biggest and best known is the Council of Logistics Management⁶, which hosts an annual educational conference that is attended by 5,000-7,000 people from a broad range of industries. Other examples of communities of practice include academic roundtables or forums, councils led by particular logistics providers or consulting firms, and industry-specific groups. For example, through the Sematech community, semiconductor manufacturers in the mid-90's defined and communicated a common view of desired service requirements to logistics service providers and a prioritized list of feature enhancements to their ERP system providers. Speaking with a common voice allowed them to exert greater influence and allowed their partners to be more effective in their allocation of resources.

⁶ Website: www.clm1.org

In creating a community of practice (and in implementing the other recommendations given here), humanitarian relief organizations should keep in mind their full community of stakeholders (see Figure 3).

Figure 3. Humanitarian Logistics Stakeholders



Fritz Institute will contribute to the development of a community of practice in several ways:

- By hosting an annual Humanitarian Logistics Council, an annual two-day convening of the heads of logistics of humanitarian organizations engaged in relief and development. The first meeting was held in Geneva in January 2003 and included logisticians from the humanitarian community as well as leading academics with supply chain and logistics expertise (see Appendix 1)
- By facilitating and hosting smaller convenings around specific topics, such as fleet management, relevant to the humanitarian logistics community
- By supporting other convenings organized to build community and facilitate learning across organizations, such as the group of emergency operations managers of the six leading US NGOs

Knowledge Management: A key to the success of humanitarian logistics is to define ways in which knowledge can be preserved and passed on and processes made to be less people dependent, particularly given the high level of employee turnover. This may be approached through formalization, standardization and documentation of logistics processes, development of educational materials and training. To the extent that the various multinational HROs face similar logistics tasks and similar challenges, it seems natural to approach knowledge management through the community of practice. Common training and the use of tools like e-learning would open up the possibility of creating a cadre of logisticians in the field, and so promote standardized logistics practices and in-country logistics capacity.

Fritz Institute has made a commitment to continue to study the logistics function in humanitarian organizations and to explore the development of a common training program for logisticians. In addition, the Institute has sponsored the creation of a series of teaching cases on disaster relief logistics⁷. These cases, which are being taught at business schools around the world, offer insight to the exciting world of relief logistics as a promising area for research and practice. Fritz Institute has also sponsored a special issue of *Forced Migration Review*, to appear in fall 2003, that will focus on humanitarian logistics⁸. The intent of this special issue is to

⁷ Two cases on relief logistics and the IFRC are available at the Fritz Institute website www.fritzinstitute.org. An additional series of three cases on the United Nations Joint Logistics Council (UNJLC) are in preparation by Professor Luk Wassenhove of INSEAD University.

⁸ For a Call for Papers please see www.fmreview.org.

raise the profile of humanitarian logistics by describing, in the words and voice of logisticians, their best practices, innovations and key learnings. In addition, Fritz Institute is collaborating with several academics to facilitate and sponsor research and publication in the area of humanitarian logistics.

Fritz Institute also sponsors Crossroads, a small group of senior supply chain executives and leading academics in conversation with humanitarian operations experts on how corporate resources and academic theory can be combined to bring best practices from the private sector to the humanitarian community. The incentive for the corporate and academic sectors is the potential to learn about operating effective supply chains in extremely dynamic situations.

Flexible Technology Solutions: Humanitarian relief organizations have a common need for integrated information technology (IT) solutions that support procurement, distribution through a pipeline, tracking and tracing of goods and funds, flexible and robust reporting and connectivity in the field. Procurement involves global sourcing, drop shipment, using commercial transportation, as well as third party logistics firms, chartering aircraft or procuring local transportation such as mules and donkeys, tracking shipments and monitoring prices for commodities around the world. The IFRC/ICRC catalog of relief items includes 6,000 items from cranial drills for surgery at disaster sites to plastic sheeting for shelter. The UNICEF warehouse in Copenhagen includes an inventory of \$22 million in relief supplies at any given time; these supplies are procured from over 1,000 vendors worldwide.

Despite the complexity of humanitarian logistics, manual processes are still dominant and IT resources which could enhance information availability, reporting and learning, are often not effectively leveraged. Some of the deficiencies of current systems include:

- Data must be written out onto multiple forms and keyed into multiple spreadsheets
- Budget control is inadequate; funds may be misspent as a result
- Usage of funds is not tracked to the extent that donors have requested
- Procurement procedures are difficult to enforce; integrity is lacking
- Tracking and tracing of shipments is done manually using spreadsheets
- There is no central database of history on prices paid, transit times, or quantities received/purchased
- Reports are done manually. Therefore, little reporting and performance analysis is performed, other than reporting to donors on quantities of relief items delivered for a given operation.

During the past year Fritz Institute has worked with the International Federation of Red Cross and Red Crescent Societies (IFRC) to create Humanitarian Logistics Software (HLS), a flexible, tailored software that accommodates resource mobilization, procurement, and transportation tracking and tracing to the extended point of distribution in the field. This software, created specifically for the dynamic relief situation, will be provided free of charge to qualified HROs.

Metrics, Performance Measurement and Learning: In general, humanitarian relief organizations have focused on “getting the job done,” and have put little effort into performance measurement, other than reporting to donors on the amount of relief and usage of funds for a given relief operation. Furthermore, learning has been approached on an ad-hoc basis, through post-operation evaluations, rather than through a structured process of continuous improvement, as has been used successfully in the corporate sector since the 1980’s.

As backbone information systems are implemented, HROs will have the capability to measure performance across operations and to use measurement information in any of the following ways:

- Use actual performance as input into future operational plans
- Identify and eliminate causes of performance breakdowns
- Use analysis of current performance to inform continuous improvement of processes
- Use actual data to strengthen voice with donors, suppliers and logistics service providers
- Report performance to donors and media to enhance reputation and image

Since performance measurement is such a new endeavor for HROs, it should be approached as a long-term program. HROs should start with a minimal set of measurements and with collection and analysis of performance data to determine what is comparable and to what extent variability in performance is an issue. It may be the case that HROs should work on reducing variability in performance before focusing on improvement of mean performance. Once comparability is established and variability is shown to be under control, meaningful targets or standards can be used, where appropriate.

Understanding comparability equates to identifying which factors most affect cost, quality, complexity, risk and timeliness. The first step in learning is to categorize the world so that strategies can be developed for each category. Data mining techniques will be useful in answering questions such as: What factors most affect transportation cost and cycle time? Which suppliers of a given commodity (e.g. tents) are the most reliable and most cost-effective? Is the extent and impact of unsolicited donations similar across donors, regions, commodities and operations? Can minimum annual requirements of non-perishable commodities be anticipated by region and disaster type?

The potential for improving logistics' effectiveness by categorizing and strategizing about disasters and responses can be understood by considering the following example. Hurricanes are cyclical disasters in some parts of the world. Roughly speaking, 14 storms can be expected to hit somewhere in 10 vulnerable Central American and Caribbean countries between June and November each year⁹. While the location, nature and extent of damage for a particular hurricane cannot be known in advance, by reviewing information from past operations and implementing regional strategy based on flexible, readily deployable mechanisms, logistics can be transformed from an activity that is almost exclusively reactive to one based on preparedness and experience-based action. The IFRC recently established a regional approach for hurricanes. Based on analysis of past events, the IFRC defined standardized relief item descriptions, guidelines for acceptance of in-kind donations, and frame agreements with international and local suppliers for key relief items. The frame agreements were blanket purchasing agreements that set terms and required suppliers to stock a certain level of inventory at their own premises. The IFRC also improved preparedness by implementing regional warehouses and kitting operations that could kit items to create general kitchen sets or water/sanitation sets on quick notice that would be appropriate to a range of expected situations.

Effective Use of Voice: Humanitarian logistics needs to find its voice and to communicate progress towards its long-term vision to donors, top management, the private sector and service partners. Communication with donors will increase their awareness of effective practices and the value of investment in collaboration, preparedness and learning. Both USAID and ECHO have recently allocated funds to preparedness, communicating their understanding of its importance. Communication with top management of HROs will enhance appreciation of the role and importance of logistics to key success factors such as program effectiveness. End-to-end logistics systems can provide much input to executives for day-to-day decision-making during an operation, as well as for policy adjustments in its aftermath. Communication with the private sector will make them aware and appreciative of the opportunities that exist for the private sector to provide resources and knowledge to act as global citizens and contribute to the alleviation of suffering. A recent innovative partner-

⁹ IFRC: Choreographer of Disaster Management, INSEAD teaching case, Fontainebleau, France, 2002.

ship between TPG, the Dutch logistics giant and the World Food Programme, called *Moving the World*¹⁰, brings the expertise and global network of TPG to facilitate the operations of WFP.

It is voice that will enable humanitarian logistics to make the case with these various stakeholders and to overcome funding and resource constraints. In this arena, Fritz Institute works with the logistics teams in several organizations to develop the tools and vocabulary for logistics to communicate its value. Publications such as the upcoming special issue of *Forced Migration Review* will help raise the profile of logistics among the humanitarian community and donors. The case studies will be useful to communicate to a corporate audience. In addition, the advocacy for humanitarian logistics provided by Lynn Fritz and the Fritz Institute team, along with donors, the media, and the private sector, will bring attention to the crucial role of logistics in humanitarian relief.

Conclusion: Learning as the Basis for Strategic Contribution

Humanitarian logistics has the opportunity to increase its contribution to disaster relief and to be recognized for that contribution by addressing the pain points described above. This can be done through initiatives in the areas of knowledge management, technology, measurement, community and voice. While moving relief items to disaster sites will continue to be an important role for logistics, providing timely information, mining that information to garner insight as to how to improve operations, and learning internally and with others must be the strategic focus. Establishing a community that shares and invests jointly in advancing the field can leverage each logistician's efforts many-fold. It is through these two mechanisms of information and community that humanitarian logistics can find its voice and create its future, rather than limit itself to responding to the present.

¹⁰ See www.movingtheworld.com

Fritz Institute

Fritz Institute's mission is to strengthen the infrastructures of humanitarian relief organizations by mobilizing logistics and technology expertise and resources. By creating a worldwide network of scholars to research best practices and providing access to state-of-the-art technology from the commercial arena, Fritz Institute aims to facilitate the effective delivery of disaster relief. Fritz Institute is founded on the vision and philanthropy of Lynn Fritz, who brings the expertise and resources of a 30 year career in commercial logistics to the humanitarian community. For more information on Fritz Institute please visit www.fritzinstitute.org.

Acknowledgements

1. The assistance of Wally Lee and Marc Zbinden in conducting and facilitating the logistics research program of Fritz Institute is gratefully acknowledged. Wally and Marc have worked tirelessly in asking provocative questions, building relationships, and creating the Humanitarian Logistics Software.
2. The research assistance of Todd Rosoff in documenting and mapping the logistics practices of several of the largest humanitarian organizations is gratefully acknowledged. Todd's talent, energy and enthusiasm were crucial to understanding the story of humanitarian logistics.
3. Fritz Institute gratefully acknowledges the effort of all of the people that spent time with us to help us learn about the world of humanitarian logistics by talking with us, inviting us to visit their organizations and sharing stories of their frustrations and victories. In particular, we would like to thank Bernard Chomilier and Rob McConnell (IFRC), David Kaatruud and Martin Bettley (WFP), and Lars Gustavsson (World Vision). Like other heroes in the field of humanitarian logistics, they taught us that values and commitment are the most important component to effectiveness.
4. A special thanks to Dr. Laura Rock Kopczak who has contributed her writing talent, her professional insight and her humanitarian values in making this paper readable and relevant.

Appendix 1:

Organizations Represented at the Humanitarian Logistics Council, Geneva, January 30-31, 2003

American Red Cross
Bocconi University
CARE USA
Catholic Relief Services (CRS)
EuronAid
Georgetown University
Georgia Institute of Technology
INSEAD University
International Federation of Red Cross and Red Crescent Societies (IFRC)
International Committee of the Red Cross (ICRC)
International Rescue Committee (IRC)
Oxfam International
Oxford University
TNO Inro
United Nations High Commissioner for Refugees (UNHCR)
UNICEF
USAID
World Food Programme (WFP)
World Health Organization (WHO)
World Vision United States
World Vision International

