Humanitarian Logistics

In recent years, humanitarian logistics has gained increased visibility in operations management. A number of annual conferences (e.g., POMS, INFORMS, EUROMA) hosted either a track or invited sessions on humanitarian logistics, humanitarian operations, emergency response or some variation of the theme. In his plenary talk at INFORMS 2009, Hau Lee devoted a significant amount of time discussing current humanitarian research dealing with warehouse prepositioning, demand estimation and fleet management. At the 2009 Mini-Conference of the POMS College of Sustainable Operations, Luk Van Wassenhove illustrated the importance of humanitarian logistics research with examples from his work at INSEAD and discussed the need for more training to humanitarian logistics professionals. In addition, a number of journals (e.g., Interfaces, Supply Chain Forum, Operations Research Spectrum, among others) have hosted or are hosting special issues in humanitarian logistics. In particular, the "*Interfaces*" special issue on "Humanitarian Applications: Doing Good with Good OR" edited by Ozlem Ergun, Pinar Keskinocak and Julie Swann, from Georgia Tech, highlights how OM models can have a real impact in the way organizations run their operations.

This surge in attention is attracting novel and interesting research. At the same time, humanitarian relief operations is not new. In fact, the modern roots of international humanitarianism can be traced back to the formation of the Red Cross in 1863. Henry Dunant lay the foundations of the Red Cross movement, after witnessing the suffering of thousands of wounded soldiers left untended in the battle of Solferino, with an appeal to action: "Would it not be possible, in time of peace and quiet, to form relief societies for the purpose of having care given to the wounded in wartime by zealous, devoted and thoroughly qualified volunteers?" (1986, p. 27). Humanitarian relief operations, however, achieved significant scale with the establishment of the United Nations Refugee Relief Administration (UNRRA) charged with resettling millions of refugees and homeless displaced during the Second World War. In operations research and operations management, academics have been proposing models for improved relief operations, improved response to disease outbreaks and emergencies, etc. for almost two decades (some of the works include Batta and Mannur 1990; Sherali et al. 1991; Long and Wood 1995; Haghani and Oh 1996; Pidd, de Silva, Eglese 1996, Wu, Wein, and Perelson 2005; Larson 2007). In addition, Luk Van Wassenhove and his research group at INSEAD have been writing cases on humanitarian operations since the early 2000's. However, until recently, this work has received little attention from mainstream academic research.

The term "humanitarian logistics", seems to have gained currency both in academia and in practice after the 2004 Indian Ocean Tsunami. The impact of the Tsunami was so devastating – claiming the lives of over 200,000 people and leaving millions homeless – and the media scrutiny so intense –

highlighting the problems in the relief operations – that there were worldwide outcries for improved logistics in humanitarian relief operations. For instance, one spokesman for Doctors Without Borders suggested that "what is needed are supply-managers without borders: people to sort goods, identify priorities, track deliveries, and direct the traffic of a relief effort in full gear." (Russell 2005, citing The Economist Global Agenda on January 5 2005). Shortly after, hurricane Katrina devastated New Orleans. Mary Landrieu, a Louisiana senator, described it bluntly: "What I saw today is equivalent to what I saw flying over the tsunami in Indonesia. There are places that are no longer there." (The Economist 2005a). Despite the limited number of deaths compared to the Tsunami, the United States faced its "worst natural disaster in living memory" and authorities learned a lesson in inadequate emergency preparedness (The Economist 2005b).

In February 2005, delivering the Blackett Memorial Lecture, Luk Van Wassehove seized the opportunity and made a strong case for the need of supply chain management to improve operational efficiency and transparency in humanitarian operations (Van Wassehove 2006). Operational efficiency and effectiveness are critical since several humanitarian organizations are already resource constrained and are unable to scale up to ever-increasing needs. The pressure on humanitarian organizations is likely to increase since forecasts estimate a five-fold increase in the impact of natural and man-made disasters in the next 50 years (Thomas and Kopczak 2005).

On one hand, such trends suggest that research aimed at improving humanitarian operations will continue to be relevant. On another, humanitarian organizations face a current and pressing problem of improving the effectiveness of their operations. Donald Chaikin, head of logistics at Oxfam GB, suggests that: "[a]gencies need **logisticians with management experience**. Field logisticians are relatively easy to find but there is only a small pool of management level logisticians" (bold in original, Chaikin 2003). The humanitarian profession rewards field experience. Many successful humanitarian careers were built by individuals that rose through the ranks, learning-by-doing through trial-and-error. However, learning with *ad hoc* experiences often leads to knowledge gaps and informal sometimes ineffective processes. Lars Gustavsson, Director of Emergency Response and Disaster Mitigation at World Vision International, emphasizes these shortcomings: "Logisticians in the field are often not trained professionals but have developed their skills on the job. Competency-based capacity-building initiatives and mechanisms need to be developed and supported so that humanitarian logisticians' skills and know-how are raised to more professional levels…" (Gustavsson 2003).

To help address such challenges, the University of Lugano, Switzerland, received a donation in 2005 to create a tenured chair in operations management emphasizing research on humanitarian logistics. In

preparation for this task and with significant support from Charlie Fine, from MIT, the university ran for three years (from 2006 to 2008) a week long humanitarian summer school. In January 2009, the university launched a part-time executive master program on "Humanitarian Logistics and Management" aimed at training humanitarian practitioners. The program aims at providing the conceptual and methodological foundations necessary to reconcile headquarter strategies with programmatic management and filed logistics in humanitarian operations. It also seeks to balance theory and practice, avoiding the pitfalls associated with important knowledge gaps and informal training, while seeking purposeful knowledge with practical applications through collaboration with humanitarian organizations. In particular, students work on applied theses, addressing a real problem in their organizations.

In its first year, the program attracted 18 students with significant field experience (on average 9 years) from diverse humanitarian organizations (such as UNHCR, WFP, IFRC, MSF, WVI, Tearfund). Students praise the program as helping them to operate with a "more systematic approach … to emergency logistics" allowing them to replace *ad hoc* procedures; as having increased their "capacity to grasp and deal with challenges and critical issues"; as providing an "opportunity to combine the academic thought with the field experience and apply the new knowledge" in their work. The second cohort of will have 27 students with more diverse backgrounds, from a broader set of organizations and even more experience than the first. At the same time, with 27 students the program has reached its maximum capacity. As a member of our advisory board suggested "I applaud your effort, but we need to train 10 times more people per year, and we need to train them in Indonesia." Training programs designed to meet humanitarian organizations' requirements are highly desired and badly needed.

In summary, a number of members of our POM community are working toward improving humanitarian logistics. A number of efforts are having a real impact. Still, more work is needed. Given the existing needs, it is likely that the work will continue to have an impact and be well received by humanitarian organizations.

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