



Humanitarian Technology: Science, Systems and Global Impact 2015, HumTech2015

## Supply chain outsourcing in response to manmade and natural disasters in Colombia, a humanitarian logistics perspective

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### Abstract

This paper analyses the level of outsourcing among the actors of the humanitarian response system to aid those impacted by natural disasters as well as the system to aid those impacted by the armed conflict in Colombia. Based on reports produced by the actors involved, in addition to several interviews conducted with individuals directly involved in the relief operations, this paper characterizes the supply chain food aid distribution and analyses the implications drawn from the differences between the levels of outsourcing identified. Supply chains are codified in four segments for analysis purposes: logistics operations supporting the disaster area (upstream), in the disaster area (midstream), and to beneficiaries directly (downstream and last mile distribution as two individual segments). The number of third parties, whether humanitarian aid organizations or private contractors, participating in the supply chains as actors orchestrating food aid distribution to beneficiaries, drives the levels of outsourcing. Groups of supply chains from representative established organizations deploying a vast portion of food aid distribution are studied. These groups are analysed to illustrate differences and commonalities, and reach conclusions of general applicability. Based on the findings, the paper makes policy implications to increase performance of future food aid distribution operations in response to larger scale disasters as well as opportunities for future research.

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Peer-review under responsibility of the Organizing Committee of HumTech2015

*Keywords:* Humanitarian logistics; outsourcing; food aid; natural disasters; manmade disasters;

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## 1. Introduction

### 1.1. Background

The humanitarian response in Colombia is orchestrated by several relief organizations that vary not only in size, geographic coverage and affiliation type, but also by event type as natural hazards are not the only threats that socially vulnerable citizens have to deal with since the armed conflict began over 50 years ago. The armed conflict has caused the dispossession of land of around 6 million Internally Displaced Persons (IDPs) with a relative stable average of 300,000 new IDPs every year [1]. In addition, Colombia suffers more than 600 natural disasters a year, the highest rate of recurrent natural disasters in Latin America [2]. The number of disasters is also on the rise, with 85 percent of the population and assets located in areas exposed to two or more natural hazards and records of more than 4.5 million persons impacted by large-scale disasters [3]. Such *doble afectación*, which translates to “double effects” has caught the eye of several international NGO’s, UN agencies and other major private organizations who have witnessed the humanitarian response that Colombian governmental organizations have provided to people impacted by both natural and manmade disasters. In some cases, these witnesses have collaborated with the governmental response, but in other instances, they have been the only relief organizations who have assisted specific populations in remote areas where the humanitarian assistance from the State have been simply non-existent or untimely. The reasons that explain this absence vary from the constraints that the armed conflict imposes, to governmental operators who inherently are actors of the conflict itself, to the infrastructure and other external variables that challenge the humanitarian assistance that is to be provided by law.

Outsourcing operations throughout the supply chain is a common practice in the commercial logistics sector. However, despite the fact that the literature has stressed that care should be taken when comparing key features between commercial and humanitarian logistics [4], established relief organizations outsource a variety of logistics operations to third parties, that all together, create relief networks aiding those impacted by manmade and natural disasters in Colombia. Thus, these established relief organizations together create two humanitarian systems disconnectedly responding to manmade and natural disasters that are typically either recurrent and small or random and large.

### 1.2. Objective and Research Overview

This research focuses on Post-Disaster Humanitarian Logistics (PD-HL), understood as the most intensive form of logistics in the initial response and short-term recovery phases of an event [4]. The objective of the research is to characterize the role of outsourcing in the supply chain in order to identify opportunities for improving the performance and even opportunities to optimize the storage, transport and distribution capabilities of actors, relief networks and humanitarian response systems.

To accomplish this, this research identifies actors and relief networks that can perform better in local distribution and those that can do a better job storing and transporting bulk aid to and in the disaster area within each humanitarian response system. In addition, general policy implications are developed for achieving transverse logistics synergy among actors and relief networks belonging to a distinct humanitarian response system.

The heterogeneity among relief actors and networks in Colombia draw on the heterogeneity of the supply chains through which humanitarian aid is deployed to both the natural disasters’ and the armed conflict’s beneficiaries. Consequently, this paper elaborates on the identification of actors that orchestrate PD-HL operations responding to recurrent and multiple small-scale disasters, specifically, food aid that is distributed locally to beneficiaries, irrespective of the source of the need, from either manmade or natural disasters. This initial identification is based on secondary information found in open documents and reports available online complemented with individual interviews of practitioners who have significant experience directing humanitarian operations in Colombia.

Having identified the actors directly involved in food aid distribution, the paper elaborates on the characterization of supply chains derived from such actors. Following a similar approach for the identification of actors, a set of interviews adds specifics of the supply chains that are initially built from secondary information available from the respective actors’ websites. However, given the constraints for accessing both primary and secondary information

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