



Food aid distribution during disaster response and short-term recovery: enhancing performance of heterogeneous humanitarian logistics structures

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PROJECT SUMMARY

Introduction

Victims from armed conflicts and natural hazards in developing countries may experience double-vulnerability due to exposure to one or more disaster events at the same time. Such is the Colombian situation where in 2013 more than four million internally displaced persons from the armed conflict combined with at least three and a half million affected by the 2010 and 2011 floods created intersecting population groups concurrently affected by manmade and natural disasters.

Context

In self-evaluating the performance of food aid distribution, the humanitarian agencies in Colombia acknowledge dissatisfaction when it comes to assuring minimal food security levels to disaster victims during the response and short-term recovery phases of disaster management. A challenge is that the humanitarian action that assists both kinds of victims operates separately ignoring opportunities for gaining efficiencies in the food aid distribution process by operating synergistically, either among actors from the same humanitarian agency or combined. This research recognizes the heterogeneity of the established humanitarian logistics structures that orchestrate food aid distribution, but hypothesizes that such heterogeneity may be a link to improving the performance of disaster response operations.

Major activities

Based on concepts widely discussed by scholars in humanitarian and commercial logistics, this research defines typologies of humanitarian logistics structures that contribute to closing a performance gap in the context of orchestrating food aid distribution using the supply chains identified. Following a new approach to humanitarian logistics modeling from the literature (Pérez, 2011), this research assesses the performance of recommended food aid distribution policies, as determined by both operational and social considerations. Using formulations that realistically represent some of the challenges of the humanitarian action and actual data collected through fieldwork, this research focuses on the humanitarian logistics strategies that contribute to minimizing the human suffering of internally displaced persons and natural disaster victims.

Literature

The literature reveals that the Colombian problem has not been studied and the integration of fieldwork and modeling offers an opportunity for innovating in: i) post-disaster (PD) humanitarian logistics. ii) the level of realism of the analytical models and decision support tools. iii) new paradigms of PD-humanitarian logistics models (Holguín-Veras, Pérez, Jaller, Wassenhove, & Aros-Vera, 2013). iv) The impact of institutional arrangements on the process of delivering relief (Holguín-Veras, Pérez, Ukkusuri, Wachtendorf, & Brown, 2007). vi) The characterization of food aid distribution of the two established response systems in Colombia.

OBJECTIVE

To design distribution policies and allocation strategies of food aid that recognizes the constraints imposed on the humanitarian action in Colombia while still achieving better performance to meet the food security needs of natural disaster victims and IDPs.

RESEARCH QUESTIONS

- In practice, how can the established humanitarian logistics structures that orchestrates the “last mile” distribution of food aid to IDPs and natural disaster victims during the response and short-term recovery phases be characterized in Colombia?
- How can such humanitarian logistics structures be reconfigured to improve their performance irrespective of the kind of disaster that occurs and in spite of the operational challenges implied during the response and short-term recovery phases of disaster management?
- How can performance improvement be assessed using analytical models of social costs (logistics and deprivation costs) from operations research and simulation approaches?

METHODS

This research aims to incorporate an interdisciplinary approach building on methods from operations research as well as qualitative research methods that have a potential practical impact to alleviate the suffering and minimize the loss of life of victims from internal displacement and natural disasters. By suggesting logistics synergism in the established relief supply chains that support internal displacement and natural disasters in Colombia, it is anticipated that a novel approach will emerge.

Figure 1 illustrates the deliverable products of each methodological phase whereas Figure 2 speaks to the data that will be analyzed.

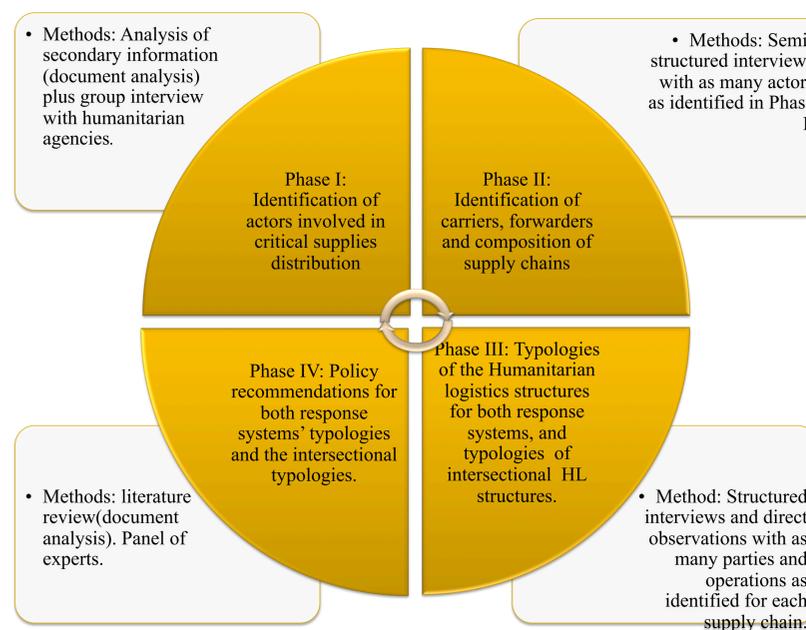


Figure 1

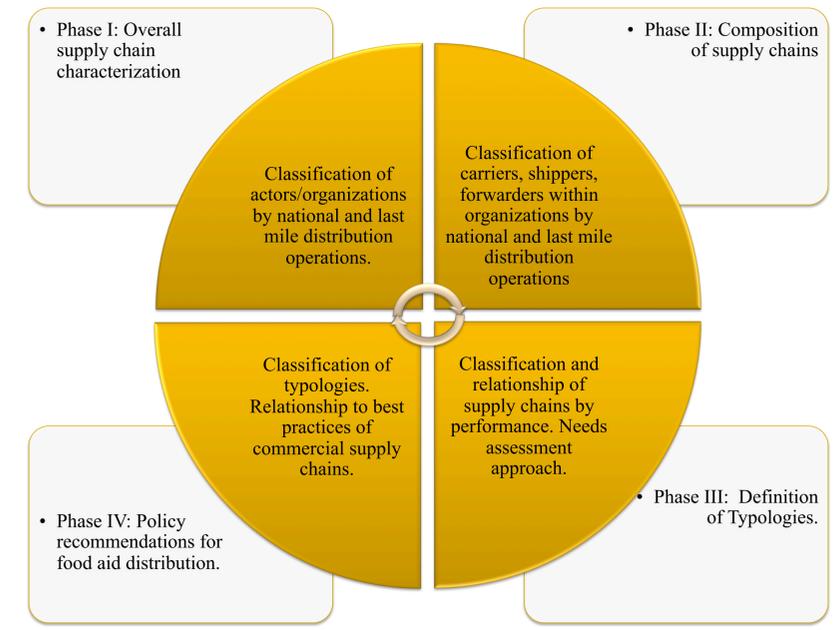


Figure 2

CONCLUSIONS AND ANTICIPATED CONTRIBUTIONS

The contributions from this project expect to serve humanitarian relief organizations in making better decisions and policies regarding aid distribution in disaster scenarios through synergistic and collaborative approaches. Although the collected data will come from established organizations directly involved in food aid distribution, this ongoing research is expected to infer that the performance of the complementary humanitarian logistics structures from the private sector and emerging organizations can be improved. Simulation, analytical models, and scenario analysis will be used. Similarly, this research expects to encourage collaboration among organizations in other instances of post-disaster relief operations than just food aid distribution, thanks to the characterization of humanitarian logistics structures.

References:

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