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Émilie Dufour, Gilbert Laporte, Julie Paquette, Marie-Ève Rancourt

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Émilie Dufour, Gilbert Laporte, Julie Paquette and Marie-Ève Rancourt

emilie.dufour@hec.ca

julie.paquette@hec.ca

gilbert.laporte@cirrelt.ca

marie-eve.rancourt@hec.ca

CIRRELT and HEC Montréal, 3000 chemin de la Côte-Sainte-Catherine, Montréal, Canada H3T 2A7

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Abstract

The outsourcing of management and logistics functions for the humanitarian sector has become increasingly common following similar trends in the commercial sector. The United Nations Humanitarian Response Depot (UNHRD) is an important logistics service provider that manages a network of depots and offers multiple supply chain solutions to its partners of the humanitarian community. In its 2014–2017 strategic plan, the UNHRD targeted the reduction of the operational costs of its network. This research project aims to analyze the potential cost benefits of adding a regional distribution center in Kampala, Uganda, to the existing network of the UNHRD in order to better respond to humanitarian crises in East Africa. To this end, we used fieldwork, simulation, network optimization and statistical analyses to assess the costs of prepositioning high-demand non-food items in Kampala and to propose a robust stocking solution. Our study is based on an actual case and uses real data. Results show that adding a regional depot in Kampala would be cost-efficient even if the UNHRD transport costs were subject to change. The UNHRD has already started to implement the solution proposed in this study, which should result in a mean cost reduction of around 21% over 5000 demand scenarios.

Keywords: Humanitarian logistics, logistics service providers, relief item prepositioning, network optimization, cost estimations, UNHRD.