

عنوان مقاله:

Multiple-organizational coordination planning for humanitarian relief operations

محل انتشار:

چهاردهمین کنفرانس بین المللی مهندسی صنایع (سال: 1396)

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خلاصه مقاله:

In humanitarian relief operations (HRO), due to the excessive number of relief organizations, multiple organizational coordination is a demanding and complicated task. Considering such a problem, this paper proposes a two-phase mechanism to coordinate multiple heterogeneous relief organizations in a decentralized HRO logistics network. To address such a problem, first a bi-level mixed integer linear model under the demand and supply uncertainties is developed, and then a capacity sharing-based-coordination mechanism is proposed. To solve the model for large-scale instances in an acceptable computation time, a fuzzy Km-Best algorithm is developed. Finally, to validate the proposed mathematical model, we compare it to a centralized relief logistics model considering a computational experiment on the earthquake in Tehran, Iran. Results show that the proposed coordinated model reduced the amount of shortage and wastage in Tehran compared to the traditional centralized model employed previously by .Tehran Disaster Mitigation and Management Organization

کلمات کلیدی:

Humanitarian relief logistics; platelets; Coordination; Capacity sharing; Uncertainty; Bi-level model

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