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Enhancing Disaster Response Capabilities in Asia-Pacific: An Explorative Study Applied to Decision Support Tools for Logistics Network Design

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Abstract : Logistics operations in the context of disaster response are characterized by a high degree of complexity due to the combined effect of a large number of stakeholders involved, time pressure, uncertainties at various levels, massive deployment of goods and personnel, and gigantic financial flow to be managed. It also involves several autonomous parties such as government agencies, militaries, NGOs, UN agencies, private sector to name few, to have a highly collaborative approach especially in the critical phase of the immediate response. This is particularly true in the context of L3 emergencies that are the most severe, large-scale humanitarian crises. Decision-making processes in disaster management are thus extremely difficult due to the presence of multiple decision-makers involved, and the complexity of the tasks being tackled. Hence, in this paper, we look at applying ICT based solutions to enable a speedy and effective decision making in the golden window of humanitarian operations. A high-level view of ICT based solutions in the context of logistics operations for humanitarian response in Southeast Asia is presented, and their viability in a real-life case about logistics network design is explored.

Keywords : decision support, disaster preparedness, humanitarian logistics, network design
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