

عنوان مقاله:

Integrated and periodic relief logistics planning for reaction phase in uncertainty condition and model solving by PSO algorithm

محل انتشار:

فصلنامه بین المللی تحقیقات در مهندسی صنایع, دوره 8, شماره 4 (سال: 1398)

تعداد صفحات اصل مقاله: 18

نویسندگان:

.B. Ejlali - *Department of Industrial Engineering, Amirkabir University, Tehran, Iran*

.S. F. Bagheri - *Department of Mathematics, Lahijan Branch, Islamic Azad University, Lahijan, Iran*

.Kh. Ghaziyani - *Department of Mathematics, Ayandegan Institute of Higher Education, Tonekabon, Iran*

خلاصه مقاله:

Disaster relief logistics is considered to be one of the major activities in disaster management. This research studies response phase of the disaster management cycle. To do so, a multi-purpose integrated model for a three-level relief cycle logistics is provided under an uncertainty condition and on a periodic basis. In this model, inventory transfer, vehicle routing, distribution and sending relief goods are modeled on a periodic basis. In addition, in order to solve the proposed mathematical model, ultra-initiative particles swarm algorithm in combination with variable neighborhood search based on Pareto archive is proposed. To prove the efficiency of the proposed particles swarm algorithm, several sample problems are randomly selected considering the solved problems in the literature and are solved by particles swarm algorithm. These problems are also solved by genetic algorithm and the results obtained from these two algorithms are compared in terms of quality, dispersion and integrity indices. The results show that compared to genetic algorithm, particles swarm algorithm is more capable of producing more integrated, qualified and dispersed responses. Moreover, the results show that the solution time of genetic algorithm is less than that of the proposed algorithm.

کلمات کلیدی:

Relief Logistics, Swarm Optimizations Algorithm, DEA

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1180867>

