

OR Experiences in World Food Programme

Operations Management

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Abstract: This paper presents the logistics problems faced by World Food Programme in the distribution of food and non-food items to vulnerable populations in emergencies. In particular two experiences are reported from Angola during that country's civil war: weekly planning of deliveries of food aid and non-food items by air; and the transportation by air of humanitarian workers involved in delivering humanitarian services to the vulnerable population. The first problem has been tackled by building an ad hoc *ILP (Integer Linear Programming)* model, called the *VRVDFL (Vehicle Routing Variable Depot Full Load)* model, the second one by a heuristic, called *PATS (Passenger Air Transportation Service)*. Both models have been successfully tested on available data.

Keywords: emergency, air-transportation, routing, scheduling.

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