

Building an Awareness Model of Emergency Supplies Dispatching for Tropical Cyclone Disasters in Guangxi

Guoyou Yue, Boonsub Panichakarn

Naresuan University, Phitsanulok, Thailand

[https://doi.org/10.35609/gcbssproceeding.2020.11\(171\)](https://doi.org/10.35609/gcbssproceeding.2020.11(171))

ABSTRACT

It is found that Guangxi is affected by many tropical cyclones (generally referred to as typhoons in China) every year. According to the statistics of typhoons that entered the inland of Guangxi from 1970 to 2013, 89 typhoons entered Guangxi in 44 years, with an average of 2 typhoons per year (Jing Li, Liyan Qi, 2015). And these tropical cyclone disasters have caused a large number of casualties and economic losses in Guangxi. Typhoon No. 0606 "Prapiroon" entered Guangxi from Yulin city, causing 74 counties (cities and districts) in Guangxi to suffer disasters, affecting 5.76 million people, killing 34 people and causing direct economic losses of 7 billion yuan (Jing Li, et al., 2007). In addition, according to the report of Guangxi Civil Affairs Department, super typhoon No. 1409 "Rammasun" landed in Fangchenggang area of Beibu Gulf, causing 4.3211 million people in 11 cities and 57 counties (cities and districts) including Beihai and Fangchenggang to suffer disaster, affecting 1.456 million hectares of crops, 8,527 farmhouses collapsed, and the direct economic losses reached 13.84 billion yuan. Moreover, the number and intensity of tropical cyclone that caused serious damage to Guangxi increased gradually. The damage caused by tropical cyclone is very huge, the disaster area is widely distributed, and the loss of many people is also very large. How to deliver the emergency supplies to the victims timely at minimum cost becomes the key to disaster relief. But the emergency supplies dispatching involves many problems. Because the displaced people are distributed in different settlements. The extent of the impact varies from place to place and the type and amount of emergency supplies needed. The distance between settlements and distribution centers varies from place to place, as does the connectivity of roads. Therefore, it is necessary to establish an awareness model for emergency supplies dispatching to solve these problems, so that emergency agencies of governments at all levels can make emergency supplies dispatching scheme faster and improve disaster relief effects.

Keywords: Emergency Logistics, Tropical Cyclone Disasters, Emergency Supplies Dispatching, Transshipment Problem, Guangxi