



## IMPLEMENTATION AND PRACTICE OF HUMANITARIAN LOGISTICS IN HONG KONG

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### Abstract

“Precaution better than cures” is always true to avoid unexpected events and diseases. Humanitarian logistics become more vital for community to quick response to the emergency of unexpected incidents as well as natural disaster, such as hurricanes, earthquakes, and pandemic. The recent COVID-19 outbreak shows that a success and reliable humanitarian logistics operation and practices are necessary to avoid duplicated efforts, logistics chaos and on-going crisis (i.e. famine, droughts, poverty, war and refugee crises.) In this study, it reveals that collaboration and outsourcing; information and IT system as well as strategic partnership are major factors for success implementation of humanitarian logistics in Hong Kong. Moreover, a comprehensive and holistic policy, operation flow and guideline are needed to minimize the negative impact. The major limitation of this study is mainly relying on secondary data gathering and qualitative research. An empirical analysis and case studies are recommended to conduct research in next stage. Further research is needed to investigate the operation flow and practices of humanitarian logistics with different stakeholders in the field.

**Keywords:** Humanitarian logistics, Emergency service, Non-governmental organization, Hong Kong.

### INTRODUCTION

Humanitarian logistics had become a significant issue in worldwide, after the Asia Ocean tsunami in 2004 and Japan earthquake in 2011. As disaster held all over the world cause for a large number of people were injured, disaster can be made by natural such as hurricanes, earthquakes, tornadoes or volcanic eruptions; and man-made disasters such as wars, armed conflicts or nuclear accidents. Those accidents will be continuously expanded and occur in the following 50 years (Thomas and Kopczak, 2005). However, there is no one can ensure the accuracy of disaster's occurrence in a hundred percent. Therefore, humanitarian logistics is one of the major supports to the relief of disaster, by preparing relief supplies before accidents occur and distributing relief supplies to the disaster scene once it happens. It assists to have extended to the life of victims, reduce the mortality rate, expedite of reconstruction to disaster scene and minimize the damage. However, Hong Kong is a blessed place that did not have many natural, or man-made disasters occurs. It causes for Hong Kong citizen have a low degree of attention and understanding to the issue of humanitarian logistics operations or the relief operations. Thus, there is a very few information, analysis and academic research of the Hong Kong's humanitarian logistics operations and related issues.

### Objective of the Study

The study will be focusing on the disaster relief and emergency operations of the humanitarian logistics operations in Hong Kong, and the objective of this study will focus on the following aspects:

- i. Illustrate the humanitarian logistics and operations in Hong Kong
- ii. Identify the factors for success implementation of humanitarian logistics in Hong Kong

- iii. Evaluate the humanitarian logistics practice in Hong Kong
- iv. Provide recommendations about policy, operation flow and guideline of humanitarian logistics in Hong Kong

### LITERATURE REVIEW

#### Humanitarian Logistics

According to the humanitarian organizations workshop, it has defined humanitarian logistics as “*process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials, as well as related information, from point of origin to point of consumption for the purpose of meeting the end beneficiary's requirements*” (Thomas and Mizushima, 2005).

Accordingly to International Federation of Red Cross and Red Crescent Societies (IFRC), which is one of the international aid agencies promoting humanitarian relief, it has mentioned that humanitarian logistics refer to acquire and deliver requested supplies and services to some people in need immediately aftermath of the disaster. And those supplies will be vital for survival including water, food, medicine and temporary shelter, etc. Gyöngyi and Karen, (2007) illustrate that specialized supplies organizing the warehousing and delivery of relief supplies during the disaster or complex emergencies situation. Besides, a part of covers disaster relief humanitarian logistics also focus on continuous support for developing regions, it is a term for a mixed array of operations.

#### Operation flow and Implementation of Humanitarian Logistics

Balcik, *et al.* (2010) had figured out the humanitarian logistics supply flow of international relief organizations (Figure 1) from suppliers to final beneficiaries in relief area, and the time frame that includes pre-disaster and post-disaster. It is a typical supply flow in a relief chain as it includes procurement and stocking in pre-disaster operations and focuses on primarily on delivering and distributing at the post-disaster stage.

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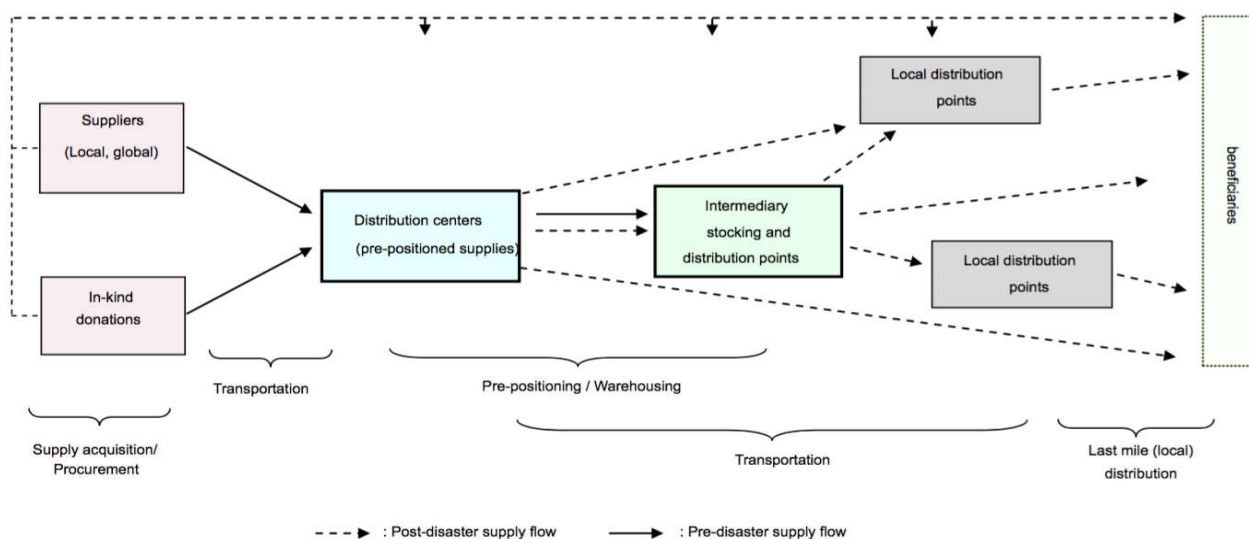


Figure 1. Supply flow of Humanitarian Logistics (Balcik *et al.*, 2010)

The relief organizations are going to sourcing for supplies in local and/or global, to take the advantage of lead time, total logistics costs, supply availability and sustainability (Balcik, et al., 2010). Local sourcing may not bring up low purchasing price, high quality or quantity but it can assist with shorter the lead-time and lower the transportation costs. Nevertheless, a huge demand for post-disaster of supplies and local competition between different organizations, the outcome will be the local market prices can become fluctuated and increase (Burcu *et al.*, 2010). Relief organizations tended to purchase relief supplies before the disasters occur and store those supplies at their distribution centers (Burcu et al, 2010). And due to the disaster's uncertainty occurrences, many relief organizations will keep inventory pre-positioned at multiple intermediary levels strategically such as in global level, regional level and country level. Besides, the distribution centers can also be set up in temporary and use for support post-disaster humanitarian relief logistics. Those temporary distribution centers and storage facilities are commonly established at the airport and seaport (Buddas, 2014). Transportation the major component of humanitarian logistics as it has accounted for over 80% of the disaster relief operations (Thomas, 2005). In order to have the quick response to demand delivery supplies by air is required, from the distribution center to the relief area. Basically, the relief agencies do not own or operate vehicle fleets in a disaster region, thereby they typically will rent local vehicles and drivers. However, for some remote areas may require for small trucks or helicopters to get on relief operations (Burcu et al, 2010). Hence, transportation of humanitarian logistics can easy affect by many geographic factors. For the implementation of humanitarian logistics practice, the implementation framework of United Nations Office for the Coordination of Humanitarian Affairs (OCHA) is one of the comprehensive model for strengthening the response of UN dealing with the natural disaster or complex emergency; and adopt this in this research study. OCHA provides logistics support on several aspects: (1) providing and maintaining adequate internal pre-positioned equipment by external partners; (2) maintaining the cooperative relationship with partners such as Deutsche Post, DHL and Logistics Cluster who provide airport-handling teams within the relief operations; (3) cooperating with the donor government to coordinate and facilitate international assistance, and the relief supplies will locate in United Nations Humanitarian Response Depot;

(4) facilitating relationship with IFRC and World Customs Organization and (5) maintaining the partnership with Logistics Cluster, that conduct overall management of emergency (OCHA, 2019.). In OCHA, the Disaster Response Teams (DRTs) which is a support team of the relief efforts of UN and the international community, it aims for having a strategic partnership with DHL, Deutsche Post and OCHA. Besides, the teams provide logistical expertise for delivering relief supplies, to ensure on having an effective and uninterrupted relief supply chain at the closest airport of the disaster. Included managing the transfer of import relief supplies from aircraft cargo into pallet, set up the temporary warehouse in the airport for sorting, loading of the supplies on vehicles for further delivery (OCHA, 2019). In addition, OCHA had also mentioned that IT system and communication technology are necessary basic equipment for managing supplies and start-up a humanitarian logistics supply chain on relief. As mentioned in above literatures, there are four major factors (collaboration and outsourcing; decentralized supply chain; strategic partnership and information and IT system) to identify the success implementation of humanitarian logistics in Hong Kong which discuss in this study (Figure 2). Also, qualitative research with gathering secondary sources, like academic journals, professional magazines and reports from government and NGOs are used in this study.

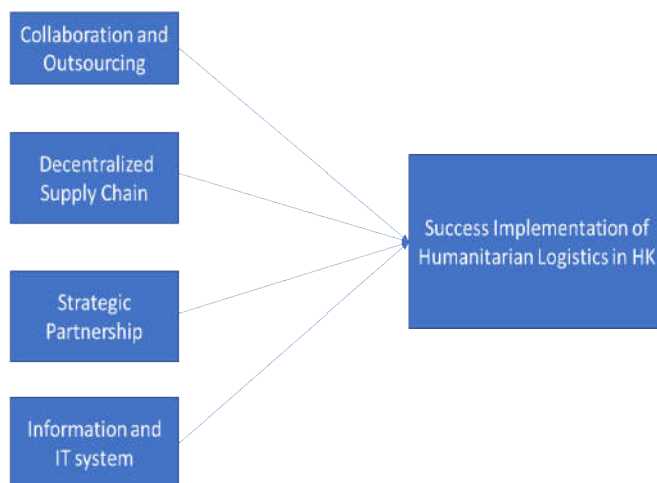


Figure 2. Research Framework of Success Implementation of Humanitarian Logistics in HK

## Humanitarian Logistics Operations in Hong Kong

### HKSAR Government

The Security Bureau of Hong Kong Government had formulated HKSAR Emergency Response System (Security Bureau of HKSAR, 2020), which is a policy and strategy of humanitarian logistics operation since the government have committed to providing a highly efficient and effective response to emergency situations. The system had defined emergency as two scenarios, (1) basic form of emergency that natural or man-made, which threatening to citizen's life, property and public security and require for a rapid response and; (2) extreme emergency or disaster, which cause for highly disruption to life with little or no warning at previous and threatened death or injury are exceeding the normal responses capability of public emergency services of Hong Kong. The Emergency Response System is focused on developing a bottom-up approach of responding to the emergency such as limited the number of involved departments and agencies, reduced the levels of communication within the system and delegated authority and responsibility to the scene of the emergency. Additionally, "The Three Tier System" for segmenting the different functions into three different response level, and the Government Logistics Department (GLD) one of the major elements of general support functions in Tier One Response (Emergency services). HKSAR government has also formulated contingency plans for natural disasters, dealing with aircraft crash, aeronautical and maritime rescue and Daya Bay nuclear power plant accident. According to the Contingency Plan for Natural Disasters, which latest issued in 2020 (since year 2015) by the Security Bureau (Security Bureau of HKSAR, 2020). It mentioned that the natural disasters that occur in Hong Kong generally come from severe weather conditions such as tropical cyclones, storm surges, heavy rain, or thunderstorms. These conditions may cause significant disruption to the transportation system and other public services. Moreover, it can cause for landslips, floods or the other accidents that affected to give rise to casualties. Besides, the impact of every natural disaster and the countermeasure is required to dealing with vary according to each circumstance. The contingency plan had identified and determined the responsibility of GLD once the natural disaster occurs. The duty of the director of GLD requires for supplying emergency relief supplies (included woolen blankets, disposable PVC gloves, disinfectant fluids, sandbags, disposable sterile syringes and needles, etc.), from the warehouse at Government Logistics Centre and urgent purchasing of non-standard or tailor-made items for the relief. Meanwhile, the Land Transport Division of it will take the responsibility in providing emergency transportation support for delivering emergency supplies to those user departments. When a disaster has occurred, a control center will set up in within one hour in the Hong Kong Transport Pool for coordinating the deployment of different vehicles and truck. Thus, the major humanitarian logistics role of Hong Kong that focuses on is to deliver emergency relief supplies.

### Non-Governmental Organization (NGO)

There are couples of Non-Governmental Organizations (NGOs) that providing relief service on humanitarian logistics related operations. The Hong Kong Red Cross (HKRC) is one of the service providers, they have set up Disasters Relief and Development Department to provide Local Disaster Relief

Service on supporting local communities which affected by natural disasters or emergency incidents, the service includes distributing clothing and daily necessities supplies to meet victims' basic needs. And, to become a cases referral to government departments or other NGOs. The HKRC Local Disaster Relief Materials Handling Centre were located at the HKRC headquarter in West Kowloon. There are pre-positioned stocks of clothing bundles such as jackets, sweaters, quilts and woolen blankets; and some of the daily necessities including shampoo, toothbrush and toothpaste are also be stored for disasters relief (HKRC, 2020). Besides, tangible assist also provided by HKRC, staff and volunteers would be involved at the whole relief process, from delivering relief supplies to offering psychological support service to the victims, since they required for support at the follow-up stage of the disaster.

### Factors for Implementation of humanitarian logistics in HK

Refer to the proposed research framework in this study, collaboration and outsourcing; decentralized supply chain; strategic partnership and information and IT system are four major criteria for success and reliable implementation of humanitarian logistics in Hong Kong. For collaboration and outsourcing, it would be possible to adopt this in Hong Kong, by outsourcing in no matter pre-disaster or post-disaster stage, from outsourcing the manpower on managing the relief supplies storage facilities until the emergency relief activities, which focuses on distribution and transportation. Using the current network, technology, or ability of the contracted third-party service provider, it can improve the efficiency of operations, conduct optimized for resource allocation and minimize the risk of the humanitarian relief service provider. For information and IT system, it could be useful to apply in Hong Kong, since adopting the system would not be lots of restriction. Besides, it could help in providing a higher level of efficiency on the operations, as it can secure the real-time information sharing. As example of Dashboard and Geodata of latest situation of novel coronavirus infection in Hong Kong in year 2020 can be found in DATA.GOV.HK [資料一線通] (DATA.GOV.HK, 2020). For strategic partnership, it is a possible method to improve the operations in Hong Kong. For example, developing a strategic partnership between the Hong Kong Government and NGOs (i.e. HK Red Cross, Salvation Army HK), sharing the capability and resource on handling the humanitarian logistics relief operations. Therefore, reduce the waste of duplication and improve efficiency on the working process. For decentralized supply chain, as the area of Hong Kong may be too small on implementing the decentralized supply chain, as applying this supply chain required for several places on decentralizing different locations for the operations, it may not assist on improving the efficiency in Hong Kong's operations, which caused by limited space. However, government logistics department should be one of the leading parties in humanitarian logistics with support of commercial sector and professional bodies in the fields.

### Conclusion

In general, humanitarian logistics become more vital for community to quick response to the emergency of unexpected incidents as well as natural disaster, such as hurricanes, earthquakes and pandemic. The recent COVID-19 outbreak shows that a success and reliable humanitarian logistics operation and practices are necessary to avoid duplicated

efforts, logistics chaos and on-going crisis (i.e. famine, droughts, poverty, war and refugee crises.) In this study, it reveals that collaboration and outsourcing; information and IT system as well as strategic partnership are major factors for success implementation of humanitarian logistics in Hong Kong. Moreover, a comprehensive and holistic policy, operation flow and guideline are needed to minimize the negative impact. The major limitation of this study is mainly relying on secondary data gathering and qualitative research. An empirical analysis and case studies are recommended to conduct research in next stage. Further research is needed to investigate the operation flow and practices of humanitarian logistics with different stakeholders in the field.

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