The importance of government humanitarian logistics activities for the successful implementation of disaster response strategies in disaster-affected areas

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Abstract: In order to create an adequate disaster response strategy, all actors included in disaster response chain need to cooperate and unite their efforts. Therefore, it is of paramount importance to analyze the established humanitarian strategies from different angles. Every aspect of the humanitarian logistics could be observed and utilized in a disaster-prone area if proven useful. Generally, humanitarian response strategies should be established and developed either by the government or a humanitarian organization. The aim of analysis within this paper is to investigate the leading role of governments in a humanitarian logistics strategy making process as well as in field operations. Secondary data sources are used for this purpose. The research is not limited to a specific disaster type. There are a few reasons for the disaster cross-type analysis. Firstly, the countries' wealth expressed through available resources, ranging from money to military capacities. Secondly, the awareness of the government officials towards disasters and humanitarian actions. Thirdly, the sociocultural aspect through literacy level of the citizens and their habits. Fourthly, the relief and architecture of the endangered region. Paper analysis findings indicate that governments play a crucial role in disaster response activities by participating in creation of a suitable disaster response strategy. Moreover, the results show that government can influence the damage proportions, through the adequate disaster phases planning and comprehensive approach to every aspect of life.

Keywords: humanitarian logistics, government, disaster response, humanitarian organizations

1. Introduction

Disasters can occur everywhere on Earth. Usually, disasters happen suddenly and can cause significant damage. Countries in areas not prone to catastrophes may not require large budgets for humanitarian activities, whereas countries in areas with frequent disaster events need substantial resources dedicated to dealing with catastrophes. To deal with catastrophic events, every country needs an adequate humanitarian supply chain, with efficient and effective humanitarian logistics activities (Paciarotti et al., 2021). Therefore, humanitarian logistics is the backbone of every humanitarian effort. From transportation and warehousing to last-mile delivery and cross-border coordination, logistics ensures that vital resources reach beneficiaries right on time (Agarwal et al., 2019).

When it comes to policy and decision-making within a country, the main actor is the government. Also, the government is in charge of disaster management policies and strategies within the country's borders. Through ministries, specialized agencies, the military, and other government bodies, the government defines the humanitarian supply chain. The proportion of a disaster management system should be dictated by the type and scale of a catastrophe. Some countries have a deep understanding, based on experience, which has made them rethink every aspect of human well-being, from architecture to disaster education in schools.

2. Literature review

When an emergency or a disaster strikes, a coordinated approach by all actors included in the humanitarian supply chain is required to enable fast and effective intervention (Li et al., 2019). From the initiation of a humanitarian response, it is crucial to implement time-sensitive interventions that establish the groundwork for sustainable recovery and facilitate a swift transition back to long-term development. As efforts evolve from emergency responses to country reconstruction, the emphasis shifts towards long-term financing, capacity building for national governments, and empowering local communities to address their requirements (Dang et al., 2023; Fathalikhani et al., 2020). Therefore, humanitarian activity is a very delicate area where the humanitarian supply chain requires adequate humanitarian logistics.

Urgent and well-prepared action is essential to disaster response. Further, efficient disaster management is vital for successful humanitarian operations. Disaster management consists of four phases (Yáñez-Sandivari et al., 2021; Kovács & Spens, 2009):

- Mitigation - The mitigation phase occurs long before a disaster strikes. Here, stakeholders will take steps to predict the potential danger and accordingly create a humanitarian response strategy. The main goal is to reduce vulnerability to disaster impacts.

- Preparedness - The preparedness phase also occurs before a disaster strikes. Here, stakeholders attempt to understand how a disaster might affect them and create disaster response plans. The main goal is to prepare all resources for a potential catastrophe.
- Response - The response phase occurs right after a disaster occurs. Here, stakeholders focus on addressing immediate threats to people, property, and business. The main goal is to save lives and beneficiaries' belongings.
- Recovery - The recovery phase takes place after a disaster. Here, stakeholders focus on the restoration of the area, rebuilding infrastructure, and helping people re-establish their socio-economic livelihood. The main goal is to refurbish the area and bring people's lives back to normal.

A logistics flow of items for disaster relief consists of several important steps (Boonmee et al., 2017). First, the items are located at international suppliers or pre-positioned at regional hubs. Next, the items are moved to the port of entry for the disaster zone, through land, sea, or air. Once there, the items are transferred to primary warehouses close to the port of entry. It's crucial that these warehouses can house temperature-sensitive supplies, as well as spare parts for transport and other equipment. Further, near the disaster area, in a safe location, a forward warehouse is positioned. Finally, a transfer point for distributing relief goods to the beneficiaries within the affected area.

Numerous stakeholders participate in humanitarian aid activities and create a humanitarian supply chain. In international operations, the number of participants and roles vary, but we can still present the most important actors and bodies in international humanitarian activities (UNDAC, 2018):

1. Civil society and Government – The local community is the first to react because it happened in their backyard, and soon the government too. Soon after the incident, they use all the resources at their disposal, from tools to techniques for search and rescue, clearing the terrain, distributing water and food.

2. UN Agencies – The United Nations participates through its agencies, specialized in certain areas of action, from emergency action on the ground, through the protection of people's health and well-being, to the recovery and development of affected areas. Specialized agencies are:

   - The United Nations Development Programme (UNDP)
   - The United Nations High Commissioner for Refugees (UNHCR)
   - The United Nations Children's Fund (UNICEF)
   - World Food Programme (WFP)
   - World Health Organization (WHO)
   - International Organization for Migration (IOM)
   - The UN Population Fund (UNFPA)

3. The Red Cross and Red Crescent Movement – The world's largest humanitarian network, operating worldwide with a mission to prevent and alleviate human suffering wherever it occurs, to protect life and health, and to ensure respect for the human being, especially in times

of armed conflict and other emergencies. They represent an auxiliary authority in their countries, but they function as an independent organization.

4. Non-Governmental Organizations (NGOs) – They are autonomous and relatively independent of governments and are funded by private individuals or groups as well as individual governments. They are present in all phases of humanitarian action and provide the necessary funds, expertise, and capacities where necessary.

5. International Governmental Organizations (IGOs) – They are organizations of sovereign states created with a common purpose and established by a founding document such as a charter or treaty that gives them a mandate.

6. Military forces – The army is a very important factor in humanitarian action, because it is present on almost the entire territory of the countries and, as a rule, possesses the necessary logistical capacities for quick action.

7. Private sector – Companies from the private sector are involved in humanitarian activities as donors and as direct service providers. The corporate sector can provide services in those areas where its expertise is best, to assist humanitarian actors in carrying out operations.

8. Ad hoc and improvised humanitarian groups – It is a population that is willing to help and that can contribute with its financial means or operational capacities, but they are rarely familiar with humanitarian action standards and coordination systems. They vary from spontaneously formed small groups to more sophisticated and numerous ones.

9. Diaspora – The diaspora population, based on connections through culture, language, and family relationships, can be involved by donating personal funds or collecting money, but also by going to the location.

Humanitarian logistics is required across all phases of disaster management. The logistics activities include warehouse inventory pre-positioning, distribution of supplies, relocation of beneficiaries, transfer of casualties, and the movement and accommodation of humanitarian personnel engaged in a relief operation (Toyasaki et al., 2017; Zhang et al., 2021). Additionally, humanitarian logistics organizes international air and sea transport and manages electronic communications.

3. Government's role in humanitarian logistics activities

In every country, the government plays a pivotal role in humanitarian logistics. During disasters, the ability to coordinate, mobilize, deploy logistics resources, and reach beneficiaries is crucial. Governmental engagement in humanitarian logistics involves the strategic and operational measures through national, regional, and local authorities to manage the crisis through the movement and management of relief supplies, infrastructure, and personnel (Tsai & Chan, 2023).

The level of engagement of government institutions, which impacts the efficiency and effectiveness of disaster response operations, varies across the globe. Governments of developed countries have

strong institutions with dedicated disaster agencies and large budgets (Maghsoudi & Piotrowicz, 2025). Despite that, in those countries, some extreme events have exposed weaknesses, showing that there is no perfect system (Wu et al., 2012; Holguín-Veras et al., 2014). On the other hand, governments of developing countries have more uneven capacity. Therefore, hardships with disaster response are imminent (Lewison & Murton, 2020; Shah et al., 2020).

The main body of a country's government defines all aspects of life within a country's territory. Likewise, the formal emergency management framework of a humanitarian activity is also defined by the government through institutions specialized in disaster management and with the capacity to provide help. Regardless of their power, governments can decide whether foreign actors enter the country or not. Governments try to prepare and reduce risk through policies and laws (building codes, land-use plans, stockpile mandates). The degree of the government's involvement in the humanitarian supply chain depends on the country's wealth. Haiti relies on international aid, provided by foreign and international entities (Cisterna et al., 2022). On the other hand, the USA relies mostly on domestic capacities, mainly provided by the US government.

Money gathering, budget allocation, and aid flow coordination are the activities operated dominantly by national and local government agencies. Meanwhile, military and civil defense forces are deployed in the disaster area and operate transport, search and rescue, and security. A recent literature review finds three major government roles: host, funder, and coordinator (Imbriale, 2025). Overall, governments set the goal and strategic direction, provide funding and infrastructure, and convene multiple stakeholders to ensure an effective response. Responsibility for the initial response to a natural disaster usually rests with local government – local police and military forces, firefighters, emergency medical personnel, and civil protection. National government bodies and agencies communicate and collaborate with local governments for a well-coordinated and effective response (Somers & Svara, 2009). Additionally, public utility organizations also work to restore electricity and heat, remove debris, assist individuals and families in need, and help the community recover and rebuild its society.

Table 1. Summary of potential government activities in each role

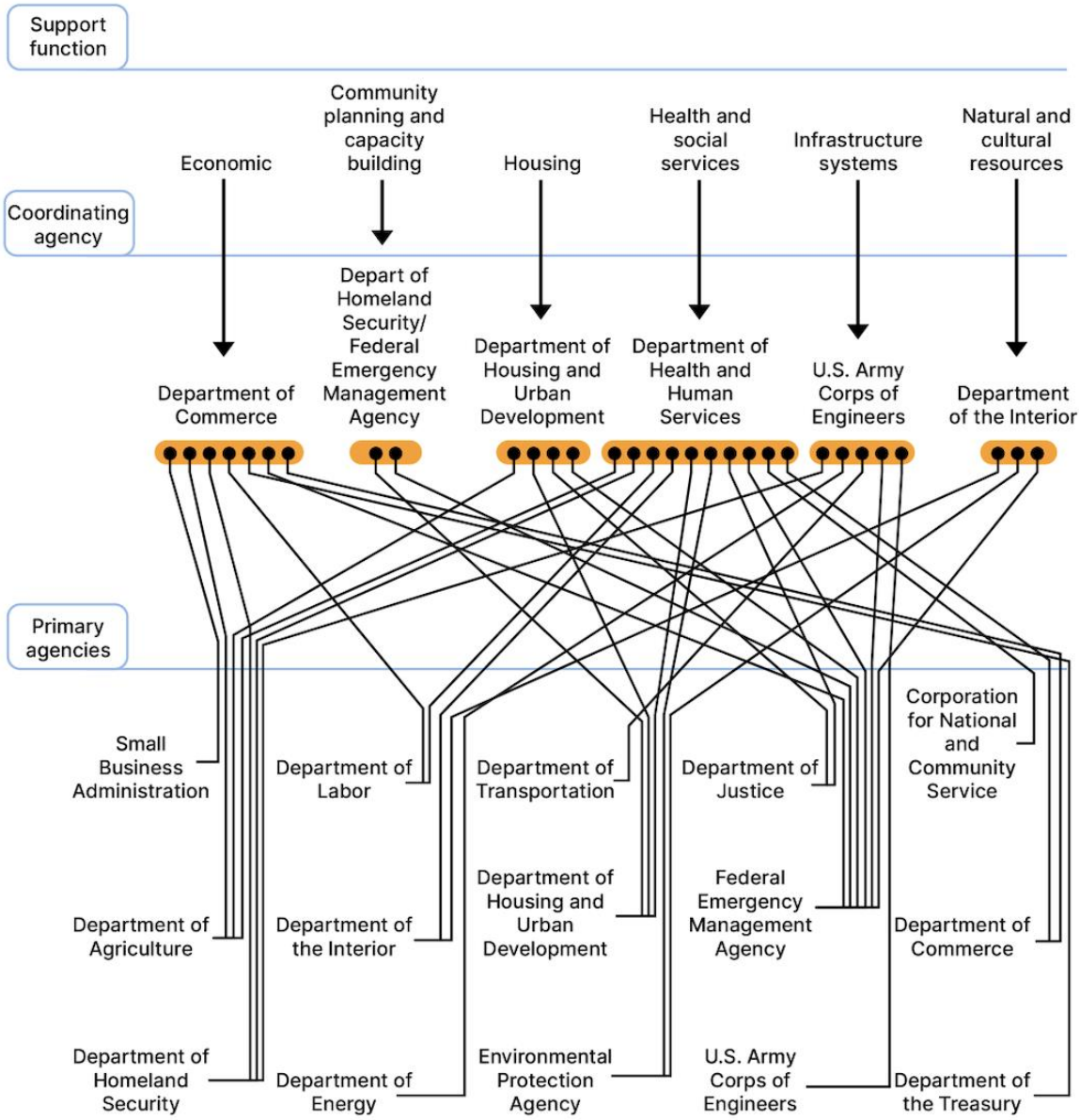
Role	Summary of potential government activities
Host (and regulator)	- Relying on nonprofit agencies to provide humanitarian services - Imposing tighter regulations to limit external assistance (e.g., banning communication equipment, increasing customs clearance complexity) - Easing regulations to facilitate external assistance (e.g., shortened waiting times for customs clearance; exemptions from paying duty fees, value-added taxes, tolls, and other regulatory fees) - Structuring the distribution of aid to ensure equity across the population - Using uneven aid distribution to settle political grudges or against marginalized communities
Funder	- Providing financial and material contributions to humanitarian operations (e.g., directly providing relief supplies, subsidies on relief materials, direct cash payments to victims or NGOs) - Making funds quickly available following a disaster - Providing funding to lower levels of government (e.g., states/provinces, local jurisdictions) - Ensuring transparency in disaster funding - Investing in critical infrastructure maintenance (pre-disaster) and repairs (post-disaster), including transportation networks, hospitals and clinics, and communication networks - Developing supply provision strategies, including stockpiling, prepositioning supplies, active relationships with suppliers, resource-sharing agreements, and fast-track procurement
Coordinator	- Administering humanitarian operations and humanitarian logistics - Developing preparedness plans - Authorizing relief operations and resource utilization - Working with other stakeholders to minimize duplication of effort - Commanding government actors (e.g., local, national, and international agencies) - Orchestrating voluntary actors and NGOs - Creating public-private partnerships to facilitate interagency coordination - Building local community trust through transparency, communication, and information dissemination - Using regulation to increase the professionalization of humanitarian logisticians - Developing policies that utilize stakeholders to enhance disaster preparedness

Source: Disaster Relief and Humanitarian Logistics: Three Essays (2023)

Table 1 shows the potential government activities for every role. Usually, developed countries can operate all three roles successfully, while developing countries can struggle with certain roles or activities (Grigoli et al., 2024). The reasons vary, from insufficient money resources to poor logistics (lack of military equipment, lack of trained people). Therefore, for adequate disaster response, all three roles should be performed well through efficient execution.

Within Figure 1 can be seen the US humanitarian network size and complexity of federal entities involved in disaster recovery. Connections complexity among them requires serious coordination efforts and communication standardization.

Figure 1. Recovery support functions and the various federal entities involved in disaster recovery



Source: FEMA: Opportunities to Strengthen Management and Address Increasing Challenges (2023)

Examples of humanitarian logistics activities focused on affected areas provided by government can be search and rescue operations, evacuation and transportation, emergency shelter and housing, water and food distribution, medical and public health support, infrastructure repair and utility restoration, logistics coordination, financial assistance and relief grants, information and communication support, long-term recovery planning (Trejos et., 2023; Vega & Roussat, 2015; Krejci, 2015; Timperio et al., 2017).

Government agencies and entities typically involved in logistics activities can be seen in Table 2. The most important US agency is the Federal Emergency Management Agency (FEMA), with the

role of coordinating the whole logistics operations through all disaster management phases (GAO, 2023). Next, the US Department of Transportation (DOT) arranges evacuation routes and assesses infrastructure condition (Renne et al., 2020). The Department of Health and Human Services leads the medical humanitarian response by providing public health logistics, while the Centers for Disease Control and Prevention (CDC) provide technical and material assistance for public health (der Heide et al., 2006). Further, the General Services Administration (GSA) provides centralized procurement of goods and services necessary for disaster response for the federal government (Schober, 2001). The U.S. Army Corps of Engineers (USACE) operates engineering logistics, which includes debris removal, temporary housing, and infrastructure repair (Comfort, 2007). U.S. Department of Defense (DOD) & National Guard provide rapid deployment and support with helicopters, airplanes, and vehicles, and communication equipment (Zsidisin et al., 2020). Small Business Administration (SBA) supports economic relief in the affected area by providing low-interest disaster loans to businesses, individuals, and nonprofits (Cortes, 2010). Finally, the U.S. Agency for International Development (USAID) provides overseas humanitarian logistics (Özpolat et al., 2015).

Table 2. Key humanitarian logistics activities conducted by government bodies in the USA

Agency	Logistics Role	Example Operations
FEMA	Central logistics coordination	Warehousing, ESF management
DOT	Transportation logistics	Evacuation, infrastructure access
HHS / CDC	Medical logistics	SNS deployment, mobile clinics
USACE	Engineering logistics	Debris removal, power restoration
DOD / National Guard	Operational support	Airlift, security, transport
GSA	Procurement and contracts	Supplies acquisition
SBA	Financial logistics	Loans, economic continuity
USAID	Foreign aid logistics	International relief airlifts

Source: Created by authors

Humanitarian operations face challenges and obstacles every time a disaster occurs. Mainly due to the unpredictability of a disaster and all the following events. Despite governments' involvement, those obstacles can significantly endanger well-planned logistics activities like casualty transport, aid distribution, and field movement (L'Hermitte et al., 2016). Additionally, disaster response efforts can be weakened even before the disaster by food, medicine, and fuel shortages. So, an adequate planning process can ensure a faster and efficient overcoming of obstacles.

4. Conclusion

The characteristics of the disaster and the specifics of the location define the complexity of the humanitarian environment. Therefore, it is necessary to make great efforts in order for the humanitarian chain to function efficiently and effectively. The purpose of the existence of the humanitarian value chain is adequate planning and implementation of the plan in all phases of

emergency management. The goal is to minimize the impact of the disaster on the welfare and health of people in the affected areas, with an emphasis on saving people's lives.

Governments play a crucial role in disaster response activities by participating in the creation and implementation of a suitable disaster response strategy. The results show that the government can influence the damage proportions through adequate disaster response planning and a comprehensive approach to every aspect of disaster management. Also, developed countries have better chances of going through crises smoothly than developing countries. Resource shortages and a lack of government control can seriously endanger the whole humanitarian process, making some operations very slow or even impossible. Hence, the challenges humanitarian stakeholders face should be anticipated on time and overcome efficiently and effectively.

5. Literature

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