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► **To cite this version:**

Mohamad Fadl Haraké, Thierry Sauvage, Mohamed Haouari. Humanitarian INGOs Supply Chain in Post-Conflict Environments: A Revision to the Lebanese Context. *Proche-Orient Études en Management*, 2023, 34 (2), pp.63-80. hal-04535752

**HAL Id: hal-04535752**

**<https://cnam.hal.science/hal-04535752v1>**

Submitted on 27 Apr 2024

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# HUMANITARIAN INGOS SUPPLY CHAIN IN POST-CONFLICT ENVIRONMENTS: A REVISION TO THE LEBANESE CONTEXT

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## **ABSTRACT**

The purpose of this paper is to present an outline of the key concepts, practices, and challenges of international humanitarian non-governmental organizations (INGOs) supply chains in post-conflict environments. Literature from the humanitarian sector with regards to the post-conflict context is discussed. A Lebanese study spanning a network of 12 INGOs is explored via semi-structured interviews. The research provides insight into the overall dynamics of humanitarian supply chains in post-war countries while considering contextual factors – including public policies, crisis logistics, project sustainability, and more. The document also presents valuable information when it comes to the logistical support needed to ensure the deployment and sustainability of INGO projects to meet political and operational needs. The research is based on qualitative empirical data specific to Lebanon in terms of logistical security and transport infrastructure. Key findings include a set of “Urgent Logistics” principles to be abided by INGOs and logistics procedures in post-conflict countries. Ultimately, the document leads to an analysis of the criteria of key performance/steering factors for INGOs wishing to secure and sustain their supply chains in very turbulent and unstable post-conflict environments.

**Keywords :** Lebanon Supply chain, Humanitarian relief, International NGOs, Post-Conflict Countries, sustainability

## RÉSUMÉ

Le but de cet article est de présenter un aperçu des principaux concepts, pratiques et défis des chaînes d'approvisionnement des organisations internationales non gouvernementales (OING) humanitaires dans les environnements post-conflit. La littérature du secteur humanitaire concernant le contexte post-conflit est discutée. Une étude libanaise couvrant un réseau de 12 OING est explorée via des entretiens semi-directifs. La recherche donne un aperçu de la dynamique globale des chaînes d'approvisionnement humanitaires dans les pays d'après-guerre tout en tenant compte des facteurs contextuels - y compris les politiques publiques, la logistique de crise, la durabilité des projets, etc. Le document présente également des informations précieuses lorsqu'il s'agit du soutien logistique nécessaire pour assurer le déploiement et la durabilité des projets des OING afin de répondre aux orientations politiques et autres et, surtout, aux besoins opérationnels. La recherche repose sur des données empiriques qualitatives propres au Liban, spécifiques en termes de sécurité logistique et d'infrastructures de transport. In fine, le document débouche donc sur une analyse des critères des facteurs-clés de performance/pilotage pour les OING désireuses de sécuriser et de verdir leurs chaînes d'approvisionnement dans des environnements post-conflit très turbulents et instables.

**Mots-clés** : Liban Chaîne d'approvisionnement, Aide humanitaire, ONG internationales, Pays post-conflit, durabilité.

## INTRODUCTION

Unstable and turbulent environments are usually characterized by man-made (e.g. climate change, wars, ...) and / or natural disasters (e.g. volcanoes, earthquakes, ...) (Ross & Sarder, 2015). Disasters usually occur in every area imaginable regardless of geography or socio-economic-technological development causing the destruction of infrastructure, the eradication of state administrations, the exhaustion of resources, thus leading to a state of deprivation (Ergun et al., 2009). Indeed, disasters of all origins have increased significantly – and so have the measures taken to counter their impact (Harris et al., 2013).

In order to respond to disastrous situations, humanitarian operations and their related supply chain procedures are usually planned and implemented by international non-governmental organizations. Such operations are intended to provide rapid assistance in different ways and means to those who have suffered (e.g. resource allocation, provision of basic needs such as food and medical care, restoring infrastructure, optimizing public services, planning policies, ...) (Kaplan, 2008).

Efficiency in complex-urgent logistics is a focal success factor for supply chain management in unstable environments (Da Costa et al, 2012). Logistics security ensures the proper flow of goods and services in such a context (Thomas, 2003) and incorporates preparedness and response to rapidly occurring events (Tatham & Houghton, 2011). Within the context of humanitarian activities such as providing food, shelter, water, sanitation, an all-in-all dynamic that includes procurement and distribution, transportation planning, headquarters / field-work coordination, is required

The operational fields for humanitarian INGOs can be divided into two main categories : conflict zones and events of natural and man-made disasters. For international non-governmental organizations (INGOs), these are defined as “Humanitarian Crises” (Vidya Bai et al., 2019). This means that INGOs in general, do not differentiate both conditions (Weiss, 1996; Goodhand, 2006); hence, from an operational perspective, no real specifications were outlined to review the approach to be adopted depending on the situation (Shafiq & Soratana, 2019). Post-conflict situations have indeed been less studied in the literature, from a logistics perspective and a humanitarian context (Cunningham, 2017). Post-war / conflict environments can be understood as a transitional period (from war to peace) that presents various challenges. Such logistics challenges will be crucial for international actors (such INGOs, development activities, UN agencies, etc.) who will either work during or after the conflict on various projects that all aim to maintain “sustainable peace” (Eshel, 2009).

Based on the above, the following dilemma is derived that we will aim to answer within the course of our study: *What is the dynamic of humanitarian INGOs Supply Chain management in Post-Conflict Environments ?*

Considering the above, this paper presents insights on the humanitarian supply chains dynamic in post-conflict countries – while taking into account various elements that are essential to the all-in-all studied framework (e.g. resources, transportation means and other infrastructure, political climate, third party involvement, ....). In order to process the outlined topic, we aim to study the Lebanese context by reviewing the supply chain dynamic of Twelve (12) humanitarian INGOs with different affiliations that are involved in the cited society. Based on the analysis of such processes, we will present a classification framework based on specific criteria that INGOs must meet in order to ensure successful-sustainable supply chains in post-conflict environments. Such a proposed framework, can serve as a basis for a future model (that we will develop in a future research) to ensure supply chain-operational excellence in turbulent, uncontrollable, unpredictable, and chaotic post-war societies – while taking into account societal particularities.

In order to properly answer our research question, and taking into account the above, the study will have the following structure: First, we will start by conducting a review of the current existing literature in order to present the various approaches of our subject. The basic foundations of post-conflict environments and countries will be checked and the foundations of the “crisis” concept will be explored. The implication of INGOs in post-conflict countries will then be reviewed in order to highlight their humanitarian activities. This will lead us to outline their supply chain mechanism and dynamics. Then, the employed methodology where we will explain our empirical observations and interpretation of our research results is presented. We will analyze the relevance of our research framework in order to review our questions and objectives concerning our suggested work. Finally, the results of our empirical findings are discussed.

## **1. LITERATURE REVIEW**

### **1.1. Conflict & Crisis**

When it comes to studying the origin of a conflictual dilemma – reviewing its historical context (the social Antiderivative) is a pre-requisite to properly decrypting its informative “fabric”. In other words, some scholars consider that a “conflict” should be studied from a social perspective in terms of structural power division (Crouch, 2001). This is because, societies – when confronted internally or externally with structural power divisions and resource inequalities – will be divided into groups having conflicting interests (Wells, 1979).

Some scholars consider “peace” as a historical struggle between violence and law in political experience (Cunningham, 2017). However, “peace” is the result of “conflict” – in other words, a violent conflict is less about collapse than about reordering and structural system transformation (Goodhand, 2006, Teixeira, 2015).

A crisis can be perceived as a transitional phase that is historically immanent – necessary to the creation of a smooth flow between different aspects of life (Koselleck, 2006). For instance, war can be thought of as a transitional period between two eras of peace, but long-term conflicts can become the norm. The transition to the next stage of development will depend on the diagnosis made (Macrae, 1995).

### **1.2. Post-Conflict Countries and International Interventionism**

After the end of the Cold War (1947–1991), and the end of a bipolar geopolitical order - the world had to deal with an unparalleled number of conflicts and their devastating effects on the afflicted countries (Hazan, 2009). This resulted in devastating wars that highlighted the international community’s “intervention dilemma” during hostilities or after it as a form of peacekeeping and peacebuilding (Monk & Mundy, 2014).

Based on this dilemma, the international community worked hard to find new ways to prevent future conflicts and establish lasting peace (OECD, 2002, Ahmad, 2006). International efforts in post-conflict countries were first mostly focused on humanitarian aid and peacekeeping missions (Hillman, 2013). However, with the evolution of conflict tackling approaches - international interventionism expanded to include direct public model interventions (Ahmad, 2006). In other words, we are talking about the “Taylorization” of action through international agencies and transcontinental civil society works that are aimed to implemented peace through service provisions (e.g. justice, governance, governance, economic aid, reconstruction, etc.) (Ottaway and Lacina, 2003). Such actions are considered by the World Bank’s to be the “core tools” of peacebuilding (World Bank, 2011). Such activities were perceived as being the re-institutionalization of the state through public administration peace building - the reconstruction of the state through the relaunching of its entities and ensuring the provision of public services by international entities (Bellamy, 2009). The emergence of a consensus that the primary cause of disputes was the lack of governmental institutions justifies these interventions (Blair, 2009; Brinkerhoff, 2010; UN, 2010; World Bank, 2012). Building an efficient public sector was one of the biggest obstacles in post-conflict nations (Collier, 2009b; Boex et al., 2010; Hillman, 2013).

As a method of ensuring enduring peace during this time, the international community had already heavily invested in supporting democratic elections within these nations. However, experiences have shown that these initiatives

were insufficient to effectively mitigate such an objective. The ruling political elite in post-war nations has frequently made public decisions that have undermined social cohesiveness and even increased violence by fomenting new regions of conflict (Collier, 2009a). International organizations realized that without appropriate governance and public administration institutions in place (Ahmad, 2006; UN, 2007; World Bank, 2011) that are capable of carrying out their duties (including providing essential services to populations) (Fukuyama, 2011), no progress can be made (e.g., in promoting peace, ensuring the legitimacy of governments, etc.) (Fukuyama, 2013) to gain the trust of the impacted community (Hillman, 2013).

It should be highlighted that providing fundamental public services in a post-conflict environment is necessarily challenging (Wolfrum, 2005; Collier, 2009b). As a result, an increasing number of post-conflict reconstruction programs launched by international organizations (UN, 2007; Boex et al., 2010), which go beyond humanitarian aid (OECD, 2002; Ajakaiye & Ali, 2009; UN, 2012), are seen as a crucial prerequisite to the establishment of peace and public development through the establishment of strong and legitimate state institutions (Ahmad, 2006; Brinkerhoff, 2010; Chandy, 2011a; 2011b; Naudé et al., 2011).

### **1.3. INGOs Implications in Post-Conflict Countries**

The *raison d'être* for humanitarian INGOs is to properly respond to man-made “humanitarian crises” by providing “peacebuilding”. Hence, INGOs implication in conflict / post-conflict countries aims to alleviate the negative outcomes of war and restore the rights of the deprived / impacted population (Cunningham, 2017). This is usually done by:

- Providing urgent needs (e.g. medical, shelter, food, energy, etc.).
- Reconstructing the state (e.g. education, businesses, etc.).

INGOs must work with several partners both local and international, as well as public, private, and associative (Goodhand, 2006). Indeed, an INGO must therefore consider the public sector’s view and actions when deciding whether a crisis exists and should an interference take place and when. Therefore, the relationship between INGOs and all the other parties that are engaged in the public life is filled with tension as each actor will attempt to limit the other’s activities. That being said, INGOs are particularly suspected to executing international political neo-colonial imperialist agenda in a fragile environment (post-conflict) (Weiss, 1996; Monk & Mundy, 2014). The main issue of conflict between INGOs and concerned states are based on their reference: governments base their decisions on political norms (e.g. sovereignty) whereas INGOs are based on a mission (e.g. aid & relief independently from political stance) (Finnemore, 1996; Cunningham, 2017). Both norms challenge one-another as INGOs through their works can actually have access to a state’s most sensitive areas. On another note, a government might have the legitimacy backed by law but an INGOs will have credibility – as the

people will welcome its actions (as neutral-apolitical-progressive specially if it is western) as post-conflict states would have played a part in initiating the war (Amarasuriya & Spencer, 2012; Monk & Mundy, 2014).

#### **1.4. Humanitarian INGOs Supply Chains**

When it comes to disaster supply chain management from a humanitarian perspective – all different stakeholders form a vast and complex network. As explained, governments and INGOs are the two main participants in a typical humanitarian supply chain. However, other important participants in the supply chains for humanitarian assistance include embassies, donors, the military, suppliers, and the media (Lodree & Taskin, 2008; Ergun et al., 2009). In spite of the different cultural, political, geographical, and historical disparities among the implicated parties, cooperation between them are becoming more and more necessary in the supply chains for humanitarian aid (e.g. requirements for paperwork, regional policies, international ties, equipment, etc.) (Sabri and Beamon, 1999; Van Wassenhove, 2006).

Humanitarian supply chain of INGOs, consists of the following activities: preparation, planning, procurement, transportation, storage, monitoring and customs clearance (Thomas & Kopczak, 2005). When it comes to the focus of the humanitarian supply chain is the “deprived population”. However, unlike “business” supply chains (where the consumer – ultimate end-user is the source of funds of the entire chain), the end user hardly ever participates in the all-in-all supply chain and have little control over supplies (Da Costa et al, 2012). On another note, humanitarian supply chains – in terms of engineering and planning, need to be flexible and capable of adapting to the changing events in order to quickly respond to unpredictable circumstances effectively and efficiently (and sometimes under heavy financial constraints) (Healslip et al., 2010).

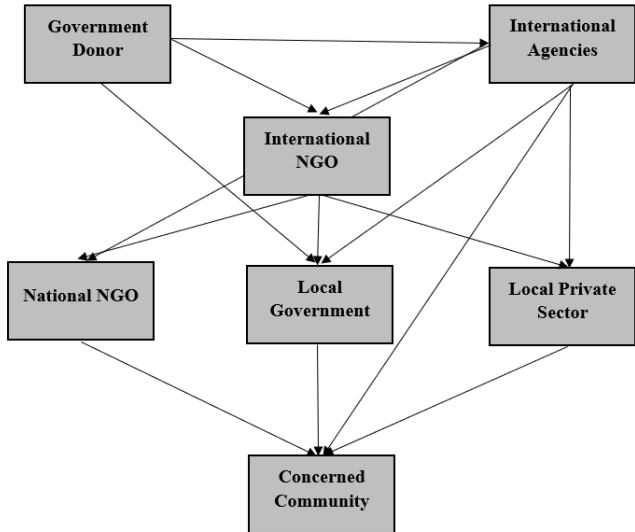
The main challenge of humanitarian supply chain management is to set up a flow of donations from various sources (both national and international) – which are not always useful, timely, or appropriate, with minimal waste of resources (Smilowitz, K.; Dolinskaya, 2011). It is to be noted that the implication of many parties will generate overwhelming quantity of data that can be both of crucial importance for decision-making – however, can slow down supply chain activities. In other words, the management of this type of supply chain will involve the coordination of large dispersed groups of experts and technicians with a view of ensuring the attenuation of the humanitarian mission : delivering goods and / or services to the deprived population, whose survival can depend on the success of the operations of logistics and supply chain activities (Healslip et al., 2010).

Adopting a pre-established supply chain model is not always applicable – as each supply chain should be compliant with the existing situation / circumstances. However, the basic components of a humanitarian supply chain model applicable



in various scenarios of human aid were repeatedly reviewed by scholars in order to properly manage the flow of humanitarian aid (Hoff, 1999).

**Figure 01. Humanitarian Aid Supply Chain Model (Oloruntoba and Gray, 2006)**



We understand that any model or at least a framework that is to be implemented – must ensure a proper coordination between the various implicated parties in order to ensure the overcoming of logistic bottlenecks (already in post-conflict countries – such parties will have to face bad infrastructure, lack of resources, etc.) (Van Wassenhove, 2006).

## 2. METHODOLOGY

A qualitative research was conducted to investigate the dynamic and mechanism of post-conflict humanitarian supply chain. This approach was deemed to be appropriate since such a process enables a proper understanding of the studied topic and provides insight on why and how particular things occur during specific events (Eisenhardt, 1989). Lebanon was chosen as the case country given the unstable nature of the country’s environment (a continuous stalemate of war – post-war periods) since the country’s conception in 1920 (Monk & Mundy, 2014). On another, the thousands of INGOs and their funded projects in Lebanon have made such parties the third wheel of public policy (AbouAssi, 2005). Indeed such entities have been actively engaged in public activity, impacting public policy (Najam, 2000). On another note, when it comes INGOs projects in Lebanon – given the variability of their objectives (e.g. service delivery, lobbying, advocacy, political agenda, economic and social activities, etc.) – the supply chain itself varies.

Data were collected from 12 INGOs that are currently engaged in various humanitarian projects all over the Lebanese territory. The sampled INGOs aimed to provide a comprehensive coverage of the current range of aid (e.g. social entrepreneurship, nutrition, refugee humanitarian relief, child protection, shelter, etc.) – thus avoiding over emphasis on a specific type of activity (Palmatier et al., 2007). This decision allowed the researchers to capture a wide range of INGOs perceptions (Gersick, 1988; Pagell and Wu, 2009). Interviewees were selected based on their knowledge of the research theme as well as their current and past involvement in post-conflict humanitarian aid as logisticians and project managers / directors / coordinators. All interviewees had at least three years of working experience in the humanitarian field in various post-conflict countries.

**Table 01. Interviewed Humanitarian INGOs implicated in Lebanon**

<i>Implicated INGO</i>	<i>Area of Focus</i>	<i>Supply Chain Dynamic</i>	<i>Supply Chain Flow</i>
INGO 01	• Energy	• Government Donor • Local Government • Hybrid management	• Information • Funds • Equipment • Storage • Transportation
INGO 02	• Water Sanitation	• International agency • Local Government • Local NGO	• Information • Funds • Equipment • Storage • Transportation • Experts
INGO 03	• Food Security	• Government Donor • International agency • Local NGO	• Information • Funds • Products • Storage • Transportation
INGO 04	• Education	• International agency • Local Government • Local NGO • Hybrid management	• Information • Funds • Equipment • Experts
INGO 05	• Economic Growth	• International agency • Local Government • Local NGO	• Information • Funds • Experts
INGO 06	• Refugee Management	• International Agency • Donor Government • Local Government	• Information • Funds • Equipment • Storage • Transportation • Experts
INGO 07	• Health	• International Agency • Donor Government • Local Government • Local NGO • Hybrid Management	• Information • Funds • Equipment • Storage • Transportation • Experts
INGO 08	• Socio-economic Inequalities	• International Agency • Local Government • Local NGO	• Information • Funds • Experts
INGO 09	• Climate Change	• International Agency • Donor Government • Local Government • Local NGO	• Information • Funds • Experts
INGO 10	• Gender Equality	• International Agency • Local Government • Local NGO	• Information • Funds • Equipment • Experts
INGO 11	• Ending Poverty	• International Agency • Local Government • Local NGO	• Information • Funds • Experts
INGO 12	• Public Institutions	• International Agency • Donor Government • Local Government • Local NGO	• Information • Funds • Equipment • Storage • Transportation • Experts

Over a period of three weeks (2022), semi-structured interviews, focused on two primary questions: the dynamic and mechanism of INGOs humanitarian supply chains in post-conflict countries and the contextual factors to be taken into account when addressing logistics planning, were conducted. A semi-structured qualitative protocol was used given that each entity had a different identity with a different mission – hence, operated in a relatively different context. This allowed the researchers to adapt the questions to both the interviewed organizations' representative and their work.

Extracted data from interviews as well as the existing literature were used to properly outline the studied topic (Eisenhardt, 1989). Interviews were conducted by phone given that the researchers are based in France. Each interview lasted 45-60 minutes. The twelve interviews were conducted under similar conditions in order to avoid bias and ensure reliability (Guba and Lincoln, 1985). Researchers were not allowed to record it. Interviews were translated to French and transcribed. A triangulation design (interviews and archival resources) was employed which enabled the researchers to improve data reliability and validity (Yin, 1994).

The researchers divided the extracted data by source (interviews and archives). This was done as to when qualitative data from various sources matched, the findings were considered stronger and the patterns more valid. On the other hand, conflicting data were gathered in another analysis group to be re-analyzed, re-studied or thrown due to inadequate verification (Eisenhardt, 1989). Finally, extracted data were compared to the existing literature to verify both our conceptual as well as managerial contributions (Eisenhardt, 1989).

### 3. FINDINGS

#### 3.1. Principles of Urgent INGOs Logistics

INGOs working in unstable environments have their own logistics principles:

- Acquisition Logistics: It is the process and procedures that concern the used material (e.g. standardization, contracting, quality assurance, procurement, reliability safety, etc.).
- Operational Logistics: It concerns the reception, storage, transport, maintenance and disposal of materiel, as well as the provision of support and services.
- In-Service Logistics: It links production & operational logistics and includes functions concerned with procuring, receiving, storing, and distributing materiel that is required to maintain the initial equipment and supply the force.
- Collective Responsibility for Logistics: It reflects the fact that the INGO and the concerned country both have obligations to cooperatively organize and

deliver the overall logistics support of the entity's operations, while taking into account one another's requirements and constraints.

- **Decentralized activities:** INGOs activities in post-conflict countries are usually drawn out by a Head Quarter (HQ) based in their countries' of origin managing the big lines of logistics operations and coordinated by regional logistics units (RLUs) that operate directly in the targeted region.

### **3.2. INGOs Logistics Functions**

The various logistic-related functions once properly harmonized form the totality of the supply chain support system:

- **Supply:** It covers all materiel used in the equipment, support and maintenance of INGOs projects. The supply function will include the determination of stock levels, provisioning, distribution and replenishment.
- **Material:** It is covered by acquisition logistics during the entirety of its life cycle (e.g. specification, design and production, reception of the material, distribution and storage, repair, maintenance and possible disposal).
- **Services:** It includes the provision of skills and expertise to support the logistics of INGOs projects.
- **Information Management:** This function bridges available information technology with logistic processes and practices to meet the INGO's logistic information requirements. Such a function must facilitate the delivery of the correct information to the appropriate people at the right time.
- **Maintenance & Repair:** It includes all activities aiming to retain the materiel in or restore it to a serviceable condition in the shortest possible time.
- **Transportation & Mobility:** It is a logistics requirement to ensure flexible capability to move freely in a timely manner within and between operation theaters in order to undertake the set missions.
- **Support:** It includes medical, contractor, environmental, petroleum, IT, etc. support which aims to facilitate the projects.

### **3.3. Logistics Procedures in post-conflict countries**

There are a number of logistics procedures that are to be properly implemented in order to ensure all aspects of collective humanitarian logistics in post-conflict countries:

- **Operational Logistics Planning:** It must be comprehensive, engaging all relevant INGO personnel as well as other third parties engaged (e.g. military, civil, national and international actors). Such a procedure should aim to improve situational awareness, enhanced collaboration and optimal employment of resources.
- **Management & Control:** It the deployment of tools with the aim of executing activities of coordination, prioritization and deconfliction of logistics and includes Operational Control over implicated logistic parties providing

theatre-level logistic support. Such a procedure will ensure that effective logistics to support the operation can be planned for and executed.

- **Flexibility & Sustainability:** Logistics plans must ensure that sufficient quantity and quality of logistic resources are available at the same or at higher readiness and deployability levels than the staff / projects they support. These logistic resources must cover the entire spectrum of INGOs operations.
- **Cooperation & Collaboration:** This procedure aims to meet logistic resource requirements. Measures that amplify the enhancement of the overall efficiency of logistic support include support options, contractor support, leasing, common or multinational procurement, pre-positioning, pooling and sharing with other agencies, and arrangements for the cooperative acquisition.
- **Funding & Resources Provision:** INGOs, international governmental donors, international agencies, etc. are all responsible for the deployment, sustainment and redeployment of post-conflict humanitarian projects / programs. Logistic resources are procured and maintained for that purpose at an international as well as national expense.
- **Life Cycle Support:** The phases of the life cycle of materiel should be the concern of all the participants in the materiel management process. Implicated parties must meet materiel support requirements and logistic capabilities and constraints within combined and joint operations.

## 4. DISCUSSION

### 4.1. Humanitarian INGOs Supply Chain Model

Experiences have shown that humanitarian INGOs have understood the importance of acquiring the correct resources, at the targeted place (post-conflict environment in our case) at the appropriate time. The emphasis is always put on logistics operations that are more or less decentralized between a Head Quarter (HQ) based in a developed country that manages these supply and operations far away from the field and regional logistics units (RLUs) that operate directly in the targeted region.

When it comes to the RLUs they are in charge of preparedness, immediate response, support and dismantling. From a logistics perspective, such entities will be responsible for sourcing of material resources, warehouse management, distribution activities, tracking, etc.

Indeed, such activities reflected the overall management of logistics model of the entire organization. The main logistics' flow can be viewed as the resources received from suppliers to the beneficiaries through country coordinators.

Taking into account that the number of natural as well as mad-made disasters are increasing exponentially on a yearly basis – and given that, war-related crises'

necessitate a specific management style of logistics activities – all of this has generated external pressure on implicated INGOs.

INGOs' interventionism & crisis-response in post-conflict environments and their generated results have led to the revision of their entire logistics dynamic. Indeed, even if such organizations have mobilized great resources, neither the principles, nor the functions nor the models were those of a regular crisis-context.

Implicated INGOs need to improve their accountability with respect to performance indicators such as cost and time. On another note, there is an internal as well as external pressure on such INGOs to be decentralized and restructure the supply chain. To do so, emphasis should be put on logistics procedures in such environments (post-conflict). This is why; the creation of contingency plans for RLUs is necessary to ensure supply chain continuity and sustainability in an unpredictable and uncontrollable environment.

#### **4.2. Classification framework for sustainable Humanitarian INGOs Supply Chain**

Building on these findings, we can suggest recommendations for the improvement of INGOs supply chain in post-conflict countries – which include coordination, production, procurement, distribution, and service life cycle management.

Below are the proposed classification:

- **Developing the coordination across implicated parties and regions when it comes the all-in-all supply chain**
  - Initiating proper road maps to identify the gaps when it comes to the coordination between organizations (INGOs – HQ & RLUs as well as local NGOs) as well as state administrations and private sector if any.
  - Review the existing coordination dynamic and collaboration model that connects implicated stakeholders.
  - Establish a sustainability culture but reviewing stakeholders' quality standards, social engagement, and ecological awareness.
  - Establish procurement channels with new local partners without compromising on quality standards when it comes to the deliverables.
- **Implicate private as well as local associative sector parties when it comes to policy formulation**
  - Initiate and formalize juridically engagement with both the private and the public sector with the absence of public administration.
  - Review the different collaboration possibilities with such sectors – especially within the area of purchasing and procurement as this will expand the different channels of communications, policy setting, choosing suppliers, etc.

- Proliferate existing channels to increase logistics capabilities especially when it comes to get expertise compliant to the environment, capabilities that are necessary for the situation, specific technologies, etc.
- Conduct regular assessment and performance evaluation to review the impact and role of private sector and associative entities across the value chain, especially at both the local and regional levels.
- **Disseminate existing data and review case lessons**
  - Collect and analyze existing data and formulate several assessments, guidance documents, etc. in order to identify weak points in the supply chain that is tailor made for INGOs working in a post-conflict environment.
- **Identify and lobby to improve existing policies and procedures**
  - Review and maintain international and national regulations and laws that are relevant to humanitarian assistance.
  - Improve existing ones by serving as a pressure group.

## CONCLUSION

INGOs Humanitarian Supply Chain Management is indeed a growing field of interest for researchers, governments and field experts. Within this field, a unique environment is being studied – that of a post-conflict environment; it should be noted that this research area is highly interesting from a supply chain perspective.

Research have shown that there is a lack of studies that combine both concepts (Humanitarian supply chain and post-conflict) in a balanced manner. Indeed, future research should be conducted in order to connect Humanitarian SCM issues with those of a post-conflict environment. It should be noted that there is a high proportion of conceptual research on these two topics, however, more empirical studies are needed to test theoretical frameworks and assumptions. On another note, each post-conflict terrain will have its own particularities that will determine data interpretation.

Based on the results of our research, we suggest that future research should develop more holistic solutions for supply chains operations conducted by INGOs in post-conflict countries. Such solutions should be based on “practice” made possible by the partnership between academia, humanitarian INGOs, local associative entities and the private sector in order to leverage the expertise and drive forward the knowledge in this nascent field of study. Moreover, future research should improve the efficiency and effectiveness of the supply chain network coordination, forecast potential crises and hence, better responsiveness, and increase operational excellence.

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