

Effectiveness of UNHCR Supply Chain Management Strategies
in Delivering Humanitarian Emergency Goods and Services in
the 2006 Israel- Lebanon War Crisis

**Degree, Master of Arts; Sociology – Advanced Disaster
Management**

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Declaration

I, Bisau Kakai Maurice do solemnly declare that this study was conducted and written by myself and has not been presented to any institution of learning for examination or publication purposes.

Signed _____ on this day of _____

I confirm that I have supervised this work and I am satisfied that it is the above student's original work.

Name of Supervisor: Dr Benson Agaya

Signed _____ on this day of _____

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List of abbreviations

BO – UNHCR Branch Office (Country Office)

EPRS – UNHCR Emergency Preparedness and Response Section.

ERT – UNHCR Emergency Response Team

ERC – UNOCHA Emergency Relief Coordinator

FO – UNHCR Field Office (One of the offices constituting the country Office)

HQ – UNHCR Headquarters

IDPs – Internally Displaced Persons

INGO – International Non Governmental Organization

LTAs – Long term frame agreements (Procurement agreements)

NGO - Non Governmental Organization

RO – UNHCR Regional Office (Office Covering Several countries in a given region)

SMS - UNHCR Supply Management Service/Department

SUMA - Supplies Management Software

UNFPA – United Nations Fund For Population Activity

UNEP - United Nations Environmental Programme

UNHCR – United Nations High Commissioner For Refugees

UNJLC – United Nations Joint Logistics Cell

UNICEF – United Nations Children Education Fund

United Nations Population Fund (UNFPA)

UNOCHA United Nations Office For Humanitarian Affairs and Coordination

WEM – UNHCR Workshop For Emergency Managers

WFP – United Nations World Food Programme

WHO – United Nations World Health Organization

Abstract

Reaching displaced people in a humanitarian emergency is heavily dependent on the effectiveness of a Supply Chain, its structure and management systems. An effective disaster response Supply Chain in humanitarian entity is modeled into three stages: preparedness, response, and recovery (Carter, 1999). During the response phase three key factors of rapidity, flexibility and adaptability must also exist. International humanitarian emergency operations are complex in nature, connecting several different sectors, actors, and varying activities. UNHCR is expected to have a capacity to respond to a new emergency of up to 500,000 people at any given moment within 72 hours from the time an emergency occurs, but the first delivery in Lebanon arrived six days after the emergency was declared. The supply delivery strategy adopted by UNHCR in Lebanon was based on standard and routine practices rather than the unique circumstances in which the operations were conducted. Lebanon was the study site based on the new and unique mandate of UNHCR in providing assistance to internally displaced persons (IDP's) which was different from its traditional role of protecting and assisting refugees. The site therefore provided an opportunity to assess how UNHCR managed this new and challenging responsibility, in a war zone, highly politicized operational environment and crowded with other humanitarian agencies. The unit of analysis in this study was the supply chain strategies that UNHCR adopted in the 2006 crisis. Existing Staffing systems and structures, Relief goods Stockpiling location and transport infrastructure, actual Supply Chain Performance assessment during the crises including Operational environment and interagency Co-ordination were the units observed. Different combinations of techniques and tools used to collect data included; interviews using a questionnaire and an interview schedule, unstructured interviews and forums, purposive sampling technique, direct observations and desk reviews of published and unpublished literature. The UNHCR

Lebanon emergency was therefore not effective and efficient. The correct goods, in the right quantity and the right quality, did not reach the targeted population at the right time and right place. The general conclusion and recommendation drawn from the study is that donors social political approaches to funding, drives competition among humanitarian organizations, thus causing egocentric and competitive behaviors. Donor behaviors and funding patterns affects humanitarian Supply Chain entities strategies. With goodwill, donors can change the current egocentric behavior by agencies to social centric which will improve the humanitarian supply chain service delivery to beneficiaries. Proactive and need based donations rather than reactive and politicized will improve future Supply Chain emergency preparedness and response among humanitarian agencies.

CHAPTER 1: INTRODUCTION

1. Background

Crisis not only refers to an unexpected catastrophe, but also to the slow build-up of environmental, political or economic factors that act on a society's vulnerabilities (Blaikie, 1994). The event becomes a disaster when the community's capacity to cope is overwhelmed and the status quo becomes untenable. The situation is then declared an emergency and assistance is requested. Disasters happen when hazards meet exposure due to vulnerability. Disasters are classified as either natural or man made. Natural disasters occur when a community is exposed to a natural hazard, thus disasters caused by nature. Natural disaster can have a sudden-onset, for example tsunamis, floods, volcanoes, earthquakes, or hurricanes, or slow-onset, for example drought. The vulnerability of an individual or community is what determines the impact of the hazard. However, human causes result to the damages caused by nature. Human systems create and reinforce factors that increase vulnerability. Inequity and poverty make people more vulnerable to the effects of hazards. Human triggered global warming is changing weather systems and increasing the frequency and intensity of storms. While nature is at work here, the root cause is often human. Like natural disasters, hazards of a human origin can be sudden-onset, such as industrial accidents, war, or civil unrest, or slow-onset, such as low-level conflicts or systematic discrimination against specific social groups.

The focus of this study, however, was on the second category of manmade disaster, specifically armed conflict that causes refugee complex emergencies. The term complex humanitarian emergency is used to describe situations when political or military actions exacerbate hazards or cause a disaster. A humanitarian emergency is a humanitarian crisis in a country, region or society where there is total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single agency and/ or the ongoing United Nations country program. Humanitarian emergencies usually are complex and typically are characterized by massive displacements of people; widespread damage to societies and economies, extensive violence and loss of life; including a need for large scale multi-faceted humanitarian assistance. Hindrance or prevention of humanitarian assistance by social factors such as mistrust among humanitarian actors does occur. Political and military constraints can occur with significant security risks for humanitarian relief workers in some areas. A complex emergency often involves a large, rapid displacement of people. This may be due to violence resulting from ethnic cleansing or genocide. In a complex emergency, relief assistance can become entangled in the politics of the situation, including competition among agencies, communication break downs and co-ordination gaps. Darfur and the Tsunami response in rebel held areas of Indonesia, Sri Lanka and Lebanon are the most recent examples of complex emergencies. The focus of this study however is the analysis of the UNHCR supply chain organization in response to the Lebanon emergency.

Lebanon Crisis and UNHCR Mandate

UNHCR is mandated to protect and assist refugees under the 1951 United Nations resolution and the refugee convention. Lately the organization has also been bestowed with responsibilities of protecting and assisting Internally Displaced Person (IDP's). While continuing to take the lead in the international response to refugee emergencies, UNHCR also endeavors to achieve the effectiveness of its interventions and the durability of results by building partnerships with other United Nations agencies and by coordinating its activities in complex emergency situations. Common UNHCR collaborations with others United Nations agencies and programmes, include WFP, WHO, OCHA, UNICEF and the United Nations Population Fund (UNFPA), in activities such as food aid, immunization and health care, water supply and sanitation, mother and child medical care, family planning and education. The Lebanon crisis was as a result of major military confrontation between 12th

July and 14th August 2006 between Lebanon and Israel. This was caused by the capturing of two Israeli soldiers, and the killing of others by a Hezbollah- Shiite led group across the border. For more than four weeks, the Israel defense forces carried out continuous aerial and ground bombardment of Lebanon, resulting to the extensive destruction of Lebanese infrastructure. According to Amnesty International's August 2006 report, the Israel Air force launched more than 7,000 air attacks on about 7,000 targets during the conflict. The damage to civilian infrastructure was significant. Power systems, homes and industry were reportedly deliberately targeted. The local population had to leave their homes following the direct targeting and damage to infrastructure. By the 26th July 2006, over one million people had fled their homes. At the end of the military campaign approximately 1,180 people had been killed, one third of whom were children. With a country population fewer than 4 million people, an estimated more than 25 percent were internally or externally displaced. Of the 735,000 internally displaced, approximately 600,000 resided with host families or sheltered in public buildings. In addition, a further 230,000 people fled to neighboring countries like Syria, Cyprus, Jordan and the Gulf (OCHA Crisis interim report August 2006). In this context UNHCR was therefore expected to respond within 72 hours with both human and material resources as per its emergency plan of action. The emergency intervention objective like in most emergency operations was to effectively and efficiently deliver relief items and services to all refugee and internally displaced persons affected by the crisis.

1.1 Problem Statement

To prepare for and respond to an emergency, UNHCR has assembled teams of people with a wide range of key skills who are ready for deployment anywhere in the world at a short notice. The agency has also created emergency stockpiles of nonfood aid items in Copenhagen and Dubai to supplement local aid supplies in areas of need. Some of the items in the stockpiles include blankets, emergency tents, kitchen or cooking sets, jerry cans to fetch water, vehicles, trucks, and telecommunication equipment among others. The agency has established long-standing agreements with freight forwarders and logistics companies, and developed a global network of Suppliers, specialist agencies and partners. This means that at any given time, UNHCR is expected to have a capacity to respond to a new emergency of up to 500,000 people. The agency is expected to mobilize more than 300 trained personnel within 72 hours. These experts are from its Emergency Response Team (ERT) roster, trained through Workshop on Emergency Management (WEM), which prepares all volunteers on UNHCR's ERT rosters. The WEM are held four times a year and

every effort is made to create the atmosphere of an actual emergency deployment. The main subjects include team-building, operations planning, financial and administrative systems, operational partnerships, communication and negotiation skills, security, coordination and information-sharing, telecommunications, and humanitarian protection. The organization has also developed mechanisms for the immediate mobilization of financial resources to help meet the response to an emergency without delay. Up to one million United States Dollars is always available in an emergency kit to start off any emergency intervention. The principles governing UNHCR operations in an emergency include ensuring rapid response to alleviate suffering and save lives, neutrality and non-partisanship in the assistance process, and operating in a cost effective and efficient manner based on the limited resources. UNHCR is also expected to ensure co-ordination with the other humanitarian agencies in any given operation. The UNHCR emergency plan of action stipulates that delivery of assistance in form of relief goods shall be made to beneficiaries within Seventy-two hours from the time an emergency occurs, but the first delivery arrived six days after the emergency was declared in Lebanon.

Therefore the set organizational response time was not met in this case. UNHCR goods delivered to refugees and Internally Displaced Persons were rejected by most recipients. After receipt of its stocks inside Lebanon, the government declined the offer from UNHCR to distribute its traditional standard shelter items which include: plastic sheets, kitchen sets, water jerry cans, blankets among others. Differentiating a Hezbollah fighter from an ordinary Lebanese by UNHCR supply chain staff newly deployed to the operation remained a challenge. Therefore neutrality and non-partisanship remained a concern especially by the Israel forces, which imposed an embargo, thus delaying the movement of humanitarian cargo. The supply chain process for Lebanon relief items were transported mostly by air which was very costly. WFP was initially entrusted to co-ordinate the entire supply chain and logistics in the operations but the organization seemed to use the opportunity to enhance its visibility at the expense of UNHCR and other agencies.

In spite of the existence of a standby capacity and adherence both to the theoretical and practical principles governing emergency operations as outlined above, it is evident that the UNHCR response in the Lebanon crisis was not only slow but in a large part also inadequate. UNHCR faced problems scaling up their resources and meeting demands. At the beginning of the operations in Lebanon, unlike other agencies that had at least one

professional supply officer at the appropriate level in each country within the Middle East, UNHCR had only one, based in Amman Jordan and also fully engaged with the Iraq operation which was equally demanding. The late deployment of international supply staff and the recruitment of local supply staff also confirmed that adaptability of the agency's operations in emergencies was also a concern especially with respect to deployment of inexperienced staff. The challenge to UNHCR is that most of their experienced and limited numbers of supply staff were engaged in other ongoing emergencies.

The supply delivery strategy that UNHCR adopted in Lebanon was based on standard and routine practices rather than the unique circumstances in which the operations were conducted. Considering that there were delays in delivery of emergency supplies inside Lebanon despite the existence of sufficient stockpiles of relief goods and equipment in the UNHCR Dubai and Copenhagen warehouses, it is evident that the UNHCR supply chain humanitarian delivery in Lebanon was not effective. Since supply chain management is critical to any humanitarian emergency operation, this study therefore sought to analyze the impact of the UNHCR supply chain management strategies on its operations in Lebanon.

1.2 Study Objectives

The main objective of this study was to analyze the impact of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the 2006 Israel-Lebanon war crisis.

The specific objectives were to:

1. Describe the supply chain management strategies that UNHCR adopted in Lebanon during the 2006 crisis.
2. Assess the contributions of these strategies in delivering relief during the Lebanon crisis
3. Assess the limitations of the UNHCR supply chain management strategies during the Lebanon crisis
4. Analyze the impact of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the Lebanon crisis.

1.3 Study Rationale

The events in Lebanon 2006 emergency occurred more rapidly than any other armed conflict in the recent past and resulted in a refugee crisis. In UNHCR supply chain, mobilization of resources and response are supposed to be based on pre and post emergency data collected. Therefore every country office and region has a responsibility to closely monitor existing situations and co-ordinate closely with the emergency section including the Supply Service at UNHCR headquarters. It is from the exchange of pre-alerts, that plans are developed and response preparedness undertaken. Without such data, uncertainties in a supply system may exist and may require flexibility and rapidity to cover the gaps when an emergency occurs. Uncertainties in emergencies can cause frequent changes in a supply response plan, which have cost implications. Frequent changes can also affect relationships among actors in an emergency operation, especially where agreements have been reached to meet a specific supply objective. UNHCR Supply chain uncertainties are expected to be addressed by pre-alerts and need assessments. The assessments do help to project population to be affected, locations of displacements and possible refugee border crossing points. The need assessments do guide UNHCR in effective supply chain emergency response, which is measured by timely delivery, quality goods and also ensuring deployment of competent human resources to operations.

Generally uncertainties seem to have contributed to lack of country contingency plan for UNHCR Lebanon office. Supplies planning and systematic deliveries to beneficiaries were hampered by lack of data and poor security arrangements. The OCHA report dated August 2006 on the Lebanon crises confirms that the United Nations Department of Safety and Security (UNDSS) security arrangements were based on generic plans derived from other operations rather than on security risk assessments in Lebanon. UNDSS also established UN staff ceiling of 180 persons which was supposedly based on capacity to evacuate rather than on the needs of the operation on the ground. According to UNHCR real-time evaluation report dated October 2006, this ceiling of staff numbers contributed to intense and wasteful competition between agencies to fill the available slots. The supply function needs staff and free movement in an operation such as Lebanon, therefore any staff ceiling restriction would hamper the supplies delivery process. Therefore the rationale of the study was to analyze the predisposing factors that would undermine the implementation of the UNHCR supply chain in Lebanon and affect the delivery of humanitarian services.

1.4 Scope and Limitations of the Study

This study focused on the UNHCR emergency humanitarian operations in response to the 2006 Lebanon crisis. The study analyzed the supply chain strategies and capacities employed by UNHCR in Lebanon from June 2006 when the war began to December 2006 when the operations were ended or scaled down. It specifically assessed the impact of these strategies on humanitarian service delivery to internally displaced persons or Lebanese uprooted from their homes but still within the geographical boundaries of Lebanon. The term refugees would define the Lebanese who crossed their national borders to other countries during the crisis. This group was not included in the study because they were covered by the operations in the countries they fled to. Due to past displacements, most Lebanese also hold a second nationality and therefore it was difficult to identify them on a refugee status when they moved back to their countries of second nationality. Further, the focus was on Southern Lebanon, targeted and attacked by the Israel Defense forces, since it was viewed as densely populated by the Hezbollah fighters. This site was a key operational area due to massive infrastructure destruction that took place, involving roads and bridges and therefore most people displaced were from this location. The situation in this area was further aggravated by the embargo imposed by the Israel forces that escalated the urgent needs for relief goods delivery by UNHCR and other agencies.

The study interviewed supply staff in Lebanon and those who participated in the emergency since they had first hand information on the operation. The study also gathered information from supply staff at Budapest supply headquarters, Dubai and Copenhagen warehouses since they were directly involved in serving the Lebanon emergency. The same staff also had experience from other emergencies and therefore served as suitable references for comparison and verification of information. The study did not involve supply staff in other neighboring operations that had no direct working involvement in the crisis since they had other crises to concentrate on and their operational context would have been different from the Lebanon one, especially on security and the operational phase.

There were several limitations and challenges encountered due to operational exigencies. These included postponements of scheduled interviews by some respondents and key informants severally due to work priorities. During interviews some respondents wanted the exercise to be completed quickly. Whenever this occurred, the interviewer sought another date and venue at the convenience of the interviewee. This improved the process since the respondents seemed more relaxed and cooperative in the follow-up interviews. Some of the

interviewees also misunderstood the purpose of the study and insisted on an official introduction and rationale for them to participate in the survey. Most of the interviews were also done in the night whereby both the interviewer and interviewee were very tired and often in insecure and remote locations. This occasionally had to be managed through mutual postponement. However when the future implications of the study were highlighted most of the respondents were convinced to participate.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter reviews relevant literature on the general structure and operations of humanitarian emergency services and draws on these perspectives to analyze the UNHCR supply chain implementation during the 2006 Lebanon crisis. This analysis formed the basis of the development of theoretical and conceptual frameworks that were utilized to guide the study design, data collection, analysis and interpretations.

2.1 Global Trends in Disasters

The number of people affected by disasters, that is, events with negative consequences for humans has risen at an alarming rate in recent decades (Walter, 2003). During the 1990s, the number of people affected was nearly three times higher than during the 1970s. This was due to both population growth and the rise in the number of disasters. The World Bank reports that the risk of death, destruction, and suffering has increased due to "accelerated changes in demographic and economic trends" (Kreimer & Munasinghe, 1991). For example, coastlines have become more populated and the value of property on the coast has risen. Disaster related costs rose from an average of \$4 billion per year in the 1980s to \$40 billion annually in the 1990s (Vellinga & Mills, 2001) and the United Nations Environmental Programme (UNEP) projects losses will top \$150 billion per year in this

decade. Jan Egeland, the former UNOCHA Under- Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, described the problem in the tsunami disaster as not the biggest disaster in recorded history, but the effects may be the biggest ever because many more people live in exposed areas than ever before. Threats from conflict and political violence have also been on the rise since the end of the Cold War. These conflicts compose a significant part of the humanitarian relief mission. The conflicts in Afghanistan, Cote d'Ivoire, Darfur, Haiti, Iraq, Sierra Leone, Lebanon, and Somalia among others demonstrate the impact of complex emergencies. The vast majority of those affected by emergency disasters live in developing countries. The poverty, crowded conditions, and environmental degradation experienced by these people make them the most vulnerable and least able to help themselves.

2.1.1 Disasters and Emergencies

Disasters occur when a crisis results in extensive disruption of a society's way of living resulting to human suffering as in the example of the Lebanon war in 2006. This stretches the community's coping mechanism. Crisis not only refers to an unexpected catastrophe, but also to the slow build-up of environmental, political, or economic factors that act on a society's vulnerabilities (Blaikie, 1994). The event turns into a disaster when the community's capacity to cope is overwhelmed and the status quo becomes untenable. At this point the situation is declared to be an emergency and assistance is requested. Assistance is effected through the activation of a supply chain to support other elements such as, delivery of relief items, telecommunication and information technology. For example high frequency radios, satellite phones, email, data collection and reporting infrastructure will be needed by the staff in an emergency operation. Communication is especially vital for staff security incase of an incident.

Disasters and their impacts are seen as socially constructed (Mileti, 1999). The framework assumes that society is not an integrated system and is characterized by inequality, thereby creating a potential for conflicts that would trigger disasters. Furthermore societal factors and processes create differentially vulnerable groups. These lead different social units to experience disasters differently. Looking further at the issue of vulnerability Alexander (2000) identifies various additional lenses through which we can view disaster.

Economically, disaster results in the accelerated consumption of goods and services. Socially, disaster is seen as a phenomenon that stresses human organization and tests human adaptability. Physically, disasters can be considered extremely destructive events. Sociologically, disaster can be a window into society that allows one to observe the social and cultural processes under extreme stress that exposes their inner essence. Disasters are therefore perceived as opportunities to improve mitigation because they galvanize public and political opinion to demand improved safety. In addition to these lenses, from a humanitarian perspective, entities can use the lessons learnt from past disasters to improve their future emergency responses.

2.1.2 Disaster and Emergency Definitions

A general definition by most humanitarian agencies about emergencies is; urgent situations in which there is clear evidence that an event or series of events has occurred which causes human suffering or imminently threatens human lives or livelihoods and which the government concerned has not the means to remedy. The definition demonstrates that abnormal event or series of events which produces dislocation in the life of a community on an exceptional scale would be a disaster and would cause an emergency. Such events or series of events could comprise one or a combination of the following: sudden calamities such as earthquakes, floods and similar unforeseen disasters; man-made emergencies resulting to refugees influx or the internal displacement of populations or in the suffering of otherwise affected populations; food scarcity conditions owing to slow-onset events such as drought and crop failures; severe food access or availability conditions resulting from sudden economic shocks, market failure or economic collapse and that result in an erosion of communities and vulnerable populations capacity to meet their food needs; and a complex emergency for which the Government of the affected country or the Secretary-General of the United Nations has requested the support of respective UN agencies and according to their respective mandates (WFP Executive Board Agenda 4 , February 2005) Most disasters and emergencies have multiple causes and require complicated responses. The initial response may appear straightforward where the objective is simple by just supplying water, food, shelter, and security. However the end result of the humanitarian relief can have profound consequences.

The aim of this section is to analyze disaster and emergencies as the justification and basis of a humanitarian agency like UNHCR to have a supply chain function. It is through

existence of a responsive and adaptable supply function that a humanitarian agency can ensure effective and efficient response to the needs of persons in humanitarian emergencies. For example UNHCR protects refugees and internally displaced persons, through provision of required relief items during an emergency operation. The UNHCR assistance implies delivery of various supplies to the population in need.

2.2 Emergency Supply Chain

There are two types of supply chain in humanitarian operations, the first one is the regular supply chain applied in a fairly predictable environment. A regular supply chain in a humanitarian entity refers to the supply system used in an on going operation such as those currently applied in old established refugee camps like Kakuma and Daadab in Kenya. Both Kakuma and Dadaab camps have been in existence for at least 15 years since they were first established. Other examples of regular supply chains are those used in Palestinian Refugee camps that have existed since the 1960s in Gaza. A regular supply chain therefore is that applicable in a stable and predictable situation, where a close to accurate forecast can be achieved. The second type of supply chain is the emergency supply chain used for disasters planning and response. This type is applicable in an unpredictable situation and requires rapidity, flexibility and adaptability. No matter the type of disaster, the focus of supply chain in emergency response operations and related events typically follows four sequential stages: mitigation, preparedness, response, and recovery. Mitigation is the application of actions to help prevent or reduce the hazards of the disaster. It differs from the other stages because it focuses on long-term measures for reducing or eliminating risk. Supply chain preparedness activities help prepare for response once a disaster occurs. The response phase covers activities for mobilizing emergency funds, goods, staffs and services for the affected locations and population. Recovery is the stabilization phase during which restoration of the disaster area is conducted in the long term. For the purpose of this study, the focus will be on preparedness and response since supply chain preparedness is a pre-requisite for a good emergency response.

2.2.1 Emergency Supply Chain Management

Supply chain management is the process of planning and controlling the operations by coordinating different parties involved in the process of fulfilling customer demand efficiently. During an emergency operation the supply network is huge and complicated with numerous players, which includes donors, suppliers, beneficiaries, media, United Nations

entities, NGOs, government and the military. It is hard to coordinate all of them along with all the items that need to be delivered. Coordination and management of disaster supply chain therefore has its challenges. Collaboration and specialization of the tasks between NGOs, military, government, and private business are increasingly needed in the humanitarian supply chains despite the different cultural, political, geographical, and historical differences among them. Despite being experienced and aware of the key points in humanitarian supply chains, those in charge of supply chain management and logistics in most UN agencies, NGOs or other humanitarian organizations are not often familiar with and specialized in supply chain management and usually are not able to solve the problems that might occur during the operations. Furthermore the existence of domestic barriers such as the need of excessive paper work, especially at customs clearance and specific policies of a region may cause additional delays and undermine the delivery of emergency services. Other challenges in managing humanitarian emergency services tend to arise from external complications such as strained foreign relations. Use of technology is essential in managing supply chain operations and maintaining coordination, but many organizations rarely use appropriate software or other technology tools for supply chain management. In an experiment designed for the El Salvador earthquake in 2001, focusing on coordinating the Supply Chain and logistics operations using humanitarian relief supplies management software called SUMA, the advantages of applying such a tool were shown to be remarkable. SUMA assisted in developing a standardized methodology and operational capacity at the national or regional level to manage relief supplies and equipment efficiently. The implementation of this software allowed the identification of urgent needs, helped prevent unsolicited donations that could upset the system, and created reports with centralized information to inform the population about the development of the operations, building visibility and transparency through the supply chain. SUMA Supply chain software main activity entails prioritizing supplies, storing, distributing and reporting.

2.2.2 Emergency Supply Demand Forecasting

The beneficiaries in an emergency supply chain include the population at the affected area, as well as intermediate customers at local or global storage facilities. Their needs change significantly according to disaster types and the phases in the disaster timeline. In the pre-disaster phase, protection-based items such as batteries and flashlights are highly demanded both by the people and local stores for preparation, while immediately after the disaster, the high demand changes to first response items such as drugs, medicine, food,

water, and shelter. Once a disaster hits, demand becomes complex and often varies significantly and rapidly but more certainly is based on the reported needs that are sent eventually by the assessment teams in the disaster area. During the post disaster period, demand again stabilizes and becomes more predictable with the real data from the region. Overall, demand structure of disasters is complicated and challenging because of the high unpredictability of its three main dimensions: time, location, and magnitude. Disaster demand also has other drivers related to those dimensions such as population characteristics, economy, and political conditions. Usually these factors are complex and difficult to predict. Unlike supply chain workers in the private sector, humanitarian workers are always faced with the unknown: when, where, what, how much, where from, and how many times; in short, the basic parameters needed for an efficient supply chain setup are highly uncertain. Disaster demand forecasting is also difficult due to the lack of historical data. Even though there do exist some databases from the past experiences prepared by the UN Agencies, NGOs and governments such as the OCHA early warning system and the Emergency Events Database by the Center for Research on the Epidemiology of Disasters, they are occasionally inadequate because of inconsistency, insufficient data collection and also reporting problems. In addition experienced humanitarian workers point out that disasters are unique even if they occur exactly in the same location, since other factors such as population structure or economic conditions could have changed since the previous occurrence. Therefore historical data is not always very useful for predicting future demand. According to Van Hoek (1997), supply chain experience is difficult to apply from one emergency situation to the next. The nature of humanitarian personnel, their diverse backgrounds and also the organizational climate in many emergencies hinders the implementation of lessons learnt. Good demand forecast contributes to supply chain agility e.g. informed stockpiling and pre-positioning, including timely market surveys for pre-establishment of potential suppliers and thus reduces chaos during an emergency operation. According to Klaus Mainzer (1994), chaos prevents stable strategy of problem solving.

2.2.3 Stockpiling Location

Site selection, planning and decision making derives from information input by forecasting and need assessments regarding, for example, infrastructure such as roads and security. Thus accessibility, terrain, weather and available facilities such as warehouses, availability of handling equipment like forklifts to offload or load containerized cargo are all critical to

humanitarian emergency operations. These allow relief goods delivery speed and systems flexibility. Flexibility and rapidity in responding to real demand is demand driven and activated with a “feed forward mechanism” (Chandra and Kumar, 2001). The field office of an organization, for example UNHCR in an emergency location needs to provide data on actual end user requirements. The need and scope for “remote forecasting” of needs in the international donor countries would thus be much diminished, hence waste and costs from inaccurate forecasting and forecasting errors are reduced. The humanitarian supply chain thus needs to be more information-based. The integration of internal capabilities and processes of organizations in the supply chain enhance the agility. However, the development of a more complex supply chain system to increase agility may add to the complexity of the problems encountered (Prater et al., 2001). Inability to manage all humanitarian eventualities at the field level requires a focus on most important and feasible factors of an agile supply chain, that is, an optimal and realistic level of complexity that reflects an adequate degree of supply chain agility.

However, there is usually little time to reflect on and improve supply systems, due to simultaneous emergencies and therefore the lessons learnt from one disaster to the next are often lost (Van Wassenhove and Samii, 2003). Other current challenges are that, a typical emergency aid appeal assigns stocks and assets where available to a particular country operation or destination at the supply chain source. In other words, the inventory is committed to the donor’s desired operation destination. The humanitarian community have however not build solidarity which Ibin Khaldun (1332) described as fundamental bond of human society and the basic force of history. Ibin Khaldun further describes solidarity as unity presented by the ruling houses to their advantage in order to bring about a change in leadership. Using this analogy, if solidarity is adopted by humanitarian organizations, they could lead the current humanitarian dispensation and not vice versa. However the agencies remain competitors providing a base for donors to dictate within their fragmented structure and lose links. Through solidarity major agencies could lobby with one voice and disseminate the concept to convince humanitarian donors of the importance and value of providing resources. They would for example gain strength in lobbying for more funding to improve appropriate information systems and supply chain processes as much as for tangible relief supplies.

2.3 Emergency Supply Challenges

Some organizations like UNHCR have stockpiles as part of their emergency preparedness but often the demand during an emergency call for more resources. This can be met through procurement on the local or international market or most commonly through in kind donations from traditional donors from developed societies. There are many cases in the recent history where donated items were not needed and were not deployed to people affected by the disaster. Autier *et al* (1990) discuss the case of drug supplies after the 1988 Armenian earthquake, when at least 5000 tons of drugs and consumable medical supplies were sent by international relief operations, but only 30% were immediately usable (sorted, relevant for the emergency situation, and easy to identify), and 20% of these supplies had to be destroyed by the end of 1989. Unsuitable donations caused bottlenecks in the Supply Chain, making storage and transportation processes more inefficient. Therefore supplies that come in kind from donors would have various challenges. First, since the quantity and mix of the supplies depend at least to some degree on the donor, there is a high uncertainty of what is going to be received. Moreover, the timing of these supplies might not be appropriate. For example, consumables that arrive too early and cannot be stored for a long time or non-consumables that arrive after the operation was set up are wasted. Some donations may also be of very high quality therefore posing a challenge to humanitarian agencies existing stockpiles. The challenge will be that if you distribute the superior quality to one group and give the lower quality to the other, it may be misinterpreted by one group, for example favoritism, impartiality or discrimination.

Donations place additional complications on the procurement process, since it is difficult to define what will come from donors and what will have to be sourced from vendors. But even if donations are not considered, the procurement process is by itself a challenging task. Supply availability is highly dependent on the location. Organizations often have an inadequate picture of existing inventory. Control of inventory is usually given to country offices, resulting in excess supplies in some locations and scarcity in others. The selection of suppliers during the procurement process includes not only total cost versus quality, response time, and reliability tradeoffs but also considers less measurable factors like activating local economies by choosing a local provider. Developing contracts with suppliers is difficult given the uncertainty of the type, quantity and timing of items required, and the available budget. There is also usually a great deal of competition for supply sources when there are local or international nongovernmental (nonprofit) organizations (NGOs) sharing

similar relief objectives that often is further compounded by lack of coordination among them.

Challenges faced while sourcing from donors or vendors after the event occurs may affect supply availability. The shortage of supplies may cause emergency response to be ineffective and result in increased human suffering. Hence, it is important to develop strategies to accelerate supply response or deal with unpredictability of demand. One strategic initiative that has been recently implemented by several humanitarian organizations is the pre-positioning of inventory instead of procurement after the fact. Pre-positioning allows not only faster response but also better procurement planning and an improvement on distribution costs. However this requires an additional investment before the event occurs whereas funds are increasingly more difficult to obtain. In summary, the supply process in an emergency humanitarian supply chain is different from a regular supply chain. While a regular supply follows a standardized order fulfillment process, in the case of emergencies a portion of supplies comes from voluntary donations. In addition since emergencies supply chains are often in resource-poor environments, supply may be especially variable. Greater certainty on the supply quantity, location and time; longer relationships with suppliers; and information about the suppliers available at the location of interest before decisions are made allow better procurement contracts for normal supply chains.

2.3.1 Stratification and Supply Chain function

From a sociological and anthropological definition, social stratification is the hierarchical arrangement of individuals into social classes, castes and division within society. Weber (1894) locates the sources of stratification further beyond classes to status and party. Weber argues that the ability to possess power derives from the individual's ability to control various "social resources". These resources are varied and might include things like land, capital, social respect, physical strength, and intellectual knowledge among others. These hierarchies are not present in all societies, but are quite common in state – level societies (as distinguished from hunters-gatherer or other social arrangements). A hierarchy is an arrangement of items (objects, names, values, categories, etc.), in which the items are represented as being "above," "below," or "at the same level as" one another. According to Saunders (1986) in modern societies, stratification depends on social and economic classes comprising three main layers upper class, middle and lower class. In each class there are

also further divisions into smaller classes related, in part, to occupation. The term stratification is derived from the geological concept of strata, or rock layers created by natural processes. The supply chain in UNHCR and most humanitarian organizations is placed at lower level despite its role in the organizational global objectives. This study highlights the existing functional strata in UNHCR, a pattern that is also common across the humanitarian supply chain scenario.

2.3.2 Supply Structures in Humanitarian Service Agencies

This study focused not only on structures but also on understanding the implications of the 'structures', on social interactions. Professional Supply chain and logistics assistance that is available on short notice is crucial to the success of rescue and relief operations to save lives. In major disasters, too often commodities are sent in from all over the world without consultation or coordination with rescue and relief teams on the ground." (van der Knapp, 2004). This suggests that in emergencies, too often, the coordination between the various actors and nodes in the response operations is not guaranteed. In addition it is often observed that the supply chain function is the least staffed within the agencies concerned with humanitarian services and usually where staff is present competency questions will always arise.

2.3.3 Staff Selection and Deployment in Emergencies

According to some psychological analysts, emotional contagion defines the situation in which individuals with high well-being attract more social ties than individuals with low well-being (Byrne D 1971). The same applies to staff with high qualifications and experiences that will tend to be on high demand. Competent staffs are always on demand by every operation so attracting and retaining such caliber will always be challenging since there are other on going emergencies that would have already picked the attractive staff. Time of the emergency also matters as the Lebanon crisis, for example, took place during the summer holiday season. The same applied to the Tsunami which happened around Christmas holiday when most staff was on holiday. Therefore deployments were initially limited to staff available and willing to travel to the mission areas. It took longer than two weeks to get most of the staff deployed from internal capacity or through standby agreements. The UNHCR evaluation report on the Lebanon emergency highlighted the need for the agency to have staff with the right profile and seniority to assume leadership in protection and shelter clusters. Another staffing factor that commonly affects emergency response pertains to the

relations between local and international staff that often is characterized by lack of coherence. UNHCR audit reports on Lebanon and other operations have emphasized on the need to ensure that the emergency response team deployed are familiar with procedures, especially in the supply chain function which involves handling the bulk of the organizations resources.

2.3.4 Competing Supply Chains

When myriad humanitarian organizations flock to the scene of a disaster to help those in needs, usually the foremost goal is to physically deliver relief goods and to rescue. Through their supply chain, UNHCR along with others would focus to be among the fast ones to arrive in an emergency. They all would need many of the same items and services at the same time. For example they would compete in renting their own housing or hotel rooms, to hiring of trucks to transport relief goods or vehicles for their own transport. As each agency sets up its own supply chain and starts procuring necessary supplies, the multiple relief chains escalate competition against each other. This usually is wasteful and slows the relief process. UNHCR along with the other Humanitarian entities in such situations do engaged in a form of market-based survival. They must generate and sustain resources in order to survive.

This makes it difficult to eliminate competition of this kind. In Lebanon after WFP monopolized logistics resources like trucks, vessels and flights, other agencies flocked to the market to hire commercial trucks. The effect was that the prices increased tremendously. In Indonesia following the Tsunami, competing supply chains led to severe shortage of vehicles. Early on, every vehicle on the market was purchased. This forced other groups to import vehicles from abroad, slowing the relief effort. These competition problems are not limited to one region or operation but global. During the first week following the Tsunami, there were stories about hardware stores in Guam and Singapore being emptied out of almost everything in stock. Organizations came in and bought all the shovels, hammers, nails, lumber, and generators (Baum, 2005). In Afghanistan, organizations unknowingly set off a bidding war by competing against other organizations for truck capacity in Herat. Prices increased 300% over six months (Kaatrud, Samii, & Van Wassenhove, 2003). Finally, the UN stepped in and published rates on its website. This transparency brought prices under control. Likewise in 1999 Macedonia experienced a lack of affordable housing due to similar competition. As relief workers arrived to work in refugee

camps, organizations willingly paid monthly rents equivalent to a yearlong lease. Subsequently, the remaining available space on the market was priced to match the inflated rents. Locals were no longer able to afford housing because property owners held out for foreign rentals.

2.3.5 The Sphere Project — Humanitarian Charter and Minimum Standards

The Sphere project is the result of cooperation between various independent agencies engaged in humanitarian assistance, including most major NGOs and the Red Cross and Red Crescent. Its aim is to define basic practical standards that should govern humanitarian assistance, specifically that immediately relevant to saving lives, such as water and sanitation, food, health care and shelter. Such minimum standards already exist for many areas of humanitarian work. The problem is that there are often different standards competing with each other, or that the existing standards are out of- date or incomplete. The Sphere Project is the first initiative to provide a coherent and complete set of standards to which a wide range of agencies are prepared to agree and against which their performance can be measured. Some donors too have gone against this approach by trying to force some specifications outside the set standards. This is commonly seen through donations mainly of drugs, technical equipment and other relief items whereby the donors give the items in kind instead of funds for agencies to procure the correct specifications and culturally acceptable to the beneficiaries. In such situations, agencies with alternative budget lines or funding mechanism do reject the offers while the desperate ones do accept and try to force the items to beneficiaries (The external Control of organizations, Resources dependency, Pfeffer & Salancik 1978). The targeted beneficiaries may also equally accept depending on available alternatives and level of desperation. Rejection of relief items by beneficiaries is an exposure of an organization need assessment capabilities and operational deficiency. In Lebanon, varying specifications of relief goods were delivered and distributed by different entities therefore causing confusion among the targeted beneficiaries.

2.4 Analysis of the Lebanon Emergency

According to Amnesty international report 2006 on Lebanon emergency, there was a serious violation of International Humanitarian Law and International Human Rights Law. Both Hezbollah and the Israel defense force hit civilian targets, dwellings, and vital infrastructure – blurring the distinction between combatant and civilian. Therefore each

party in the conflict strived to maximize casualties and destruction to its opponents. In the process humanitarian relief movement was hampered. The review of all UN Security report confirms a restricted movement by UN Field Safety Advisors. There were also evident threats to safety and security of humanitarian workers, civilians and particularly refugee returnees from neighboring countries and IDPs due to unexploded ordinance and especially unexploded cluster munitions. The most affected were supply chain staff since their work required movement to various locations, for example to warehouses, to the port for customs clearance, to field locations to deliver supplies and monitor distribution among other tasks. This delayed the programming and prompt resettlement of returnees and the internally displaced. For example local commercial transporters were not keen to hire out their trucks at some point during the operation due to insecurity.

In addition, in some situations, access to populations to deliver humanitarian assistance was impeded. During the escalation of hostilities, no consistent delivery of humanitarian assistance was possible. Almost all convoys in the week between 6-12 Augusts were delayed and/or cancelled. Agreed windows of concurrence were the period and times provided by the Israel Defense Forces to allow humanitarian entities to move relief goods. Such opportunities were too limited to permit humanitarian operations until after the ceasefire. The UN newly introduced cluster approach was tested during the Lebanon emergency on how it functions in practice (UNHCR Lebanon 2006 evaluation report). ¹This was an opportunity therefore for the humanitarian community to look outwardly outside their individual agencies and coexistence with others.

2.4.1 Ideal Components and Standards for Emergency Supply Chain

¹ The ad hoc, unpredictable nature of many international responses to humanitarian emergencies prompted the Emergency Relief Coordinator (ERC) in 2005 to launch an independent Humanitarian Response Review of the global humanitarian system in the humanitarian response capacities of the UN, NGOs, Red Cross/Red Crescent Movement and other key humanitarian actors. The Cluster approach aims at addressing gaps and strengthening the effectiveness of humanitarian response through building partnerships. The approach is to ensure predictability and accountability in international responses to humanitarian emergencies, by clarifying the division of labor among organizations, and better defining their roles and responsibilities within the different sectors of the response. It is about making the international humanitarian community more structured, accountable and professional, so that it can be a better partner for host governments, local authorities and local civil society.

According to the humanitarian global standards, three key qualities of a good supply chain are: rapidity, flexibility and security. These three qualities depend on good coordination and communications as well as good planning.

2.4.2 Supply Chain Rapidity

Rapidity is determined by the emergency response time. Response time is critically important in emergencies and advance planning is essential to optimize resources, and not waste time correcting avoidable mistakes or inefficiencies. Planning must take into account lead times. In humanitarian operations circles responsive systems are also commonly referred to as agile systems. Agile humanitarian supply chains and logistic systems are considered to consistently deliver the right supplies to the right people, at the right place, at the right time and in the right quantities (Cottam, Roe, & Challacombe, 2004; WFP, 2005). Cost effectiveness which is seldom focused on in humanitarian operation now is becoming prominent due to the increased funding shortfalls. Other factors bringing cost effectiveness in the limelight are an increasing number of humanitarian entities competing for the same funds and donors preferring to work with cost conscious entities but effective in delivering humanitarian goods and services. The concept of “agility” is frequently applied to manufacturing entities (Goldman and Nagel, 1993; Goldman et al. 1995), but it is also relevant to supply chains (Christopher and Towill, 2000). Agility has been defined as “the ability to thrive and prosper in an environment of constant and unpredictable change” (Maskell, 2001); as “all about customer responsiveness and mastering market turbulence” (Van Hoek et al., 2001); and as “a business-wide capability that embraces organizational structures, information systems, logistics processes and, in particular, mindsets” (Christopher and Towill, 2000).

2.4.3 Supply Chain Flexibility

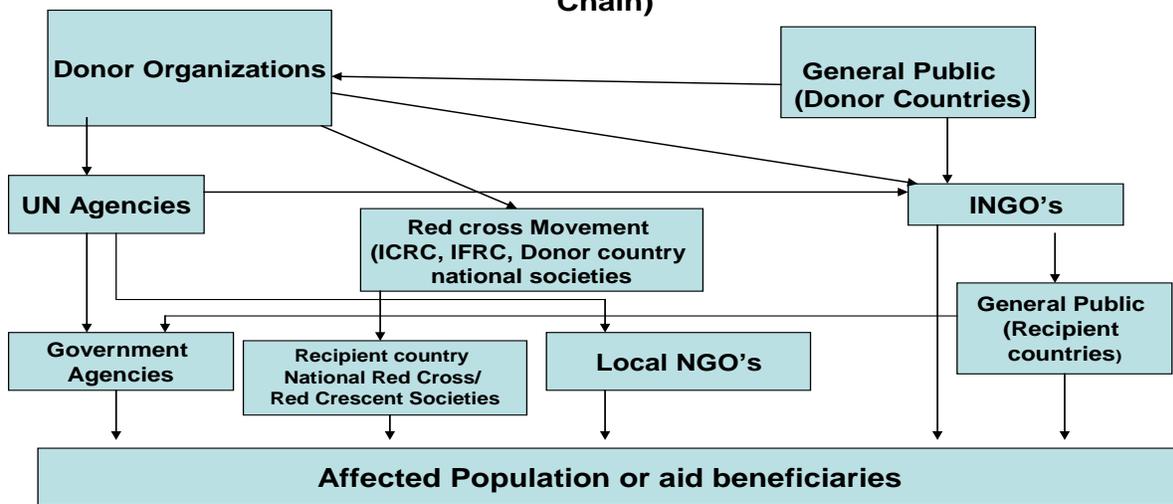
Flexibility: Logistics is dictated by the circumstances of the operation and terrain, and must be able to quickly adapt to rapid changes in circumstances. Plan for the worst case scenario, and build in the required flexibility and adaptability. For example; a supply chain must also have adequate and competent staffing, distributed strategically in key locations based on operational needs. Supply Chain internal co-ordination with other functions within an organization for example security service, programme and Human Resources departments is important. There has to be standard contract terms and conditions for goods and services, working with requesters and suppliers in developing specifications for all

items, to ensure that what is listed in the item master or catalogue will truly meet customers or beneficiaries' needs. Consistent and organized external co-ordination by a supply chain with parties external to the organization is a requirement, for example UNHCR supply chain needs to keep contacts and seek synergies where feasible with other UN agencies, Non Governmental Organizations (NGO's), International Non Governmental Organizations (INGO), Governments, Donors, Suppliers, Military and the Private sector. The UNHCR internal reports e.g. Lebanon 2006 highlights the importance of both internal and external communication and co-ordination for effective emergency response.

2.4.4 Supply Chain Security

Security: The security of personnel and relief goods must be a priority in the logistics plan. Security risks vary from theft, looting to war, fires and others. International expectation of a lean supply chain is a streamlined and integrated approach, with the following components included; scenario planning from pre disaster need assessments, sourcing of goods and services, delivery of goods and people, warehousing and stock management of goods, delivery and asset management, management and maintenance of assets and fleets of vehicles. Such a system must also have process analysis techniques and modern information technology to integrate the above activities, into a single function. The major functions and activities of a Supply unit will include; developing, evaluating and improving Supply Chain cycle, which represents the processes from which goods or services are ordered until they safely reach the persons in need. The safety of the supply staff must also be guaranteed during the operation. This cannot be achieved through policies, standards, business rules, global Supply Chain plans and structure alone, but supported with security intelligence, access and evacuation plans.

Figure 1: The International - Relief System, (Applicable to a Supply Chain)



(Source Borton, 1993)

2.4.5 Responsiveness

The issue of customer (business sector) or beneficiary responsiveness is problematic when considering the humanitarian supply chain. The “customer” to be satisfied in the humanitarian supply chain is in effect the donor and rarely the beneficiary. Therefore, agility in the context of humanitarian supply chains must address the unstable nature of funding (Bennett and Kottasz, 2000), where agencies often regularly require to raise large amounts of money at short notice for emergency interventions. Concurring with Bennett and Kottasz, concern by donor governments for certain aid to be used for specific relief operations in particular countries do drive humanitarian organizations to focus on short term direct relief and distribution, rather than long term investment in Supply chain/logistics systems and processes, for example funding stockpiling, supply soft-wares, supply staff structures and staffing in strategic locations including sustainable training. Today humanitarian supply chains are mainly international, with most local coping mechanism depleted and backed up with the over dependence on donors by the affected communities, which are mostly found in the developing world. According to Muriel Skeet’s (1977) disaster manual for relief workers, in many poor countries there is a delicate balance between population and supplies, especially food. Even a small change in the latter can have serious effects on the former. Governments in developing countries are seldom able to afford to stockpile food or

equipment for times of emergency and national disaster plans are non-existent. Medical services often consist of a few hospitals in the cities and an inadequate number of rural dispensaries, poorly staffed and ill equipped. This confirms the disaster theory that states that the poor are most afflicted. Therefore, most humanitarian supply chains are international, clearly unpredictable, turbulent, and thus requires a lot of flexibility and rapidity.

Therefore humanitarian organizations including UNHCR do need agile supply chain to meet the global needs of their beneficiaries. The continuous assessments for response planning revision and improvements since the supply chain environment is very dynamic, in terms of technology, security, process and procedures that constantly change. In most humanitarian situations, the chain ceases to be forecast-based and becomes specific. The speed at which an organization shifts from forecast –based to be specific on a given operation is what will determine its response success or failure. The decoupling point is where supply meets demand (Van Hoek, 1997), or where market “pull” meets upstream “push” Christopher and Towill (2000).

2.4.6 Determinants of Supply Chain Execution

The execution of delivery process in a supply chains consists of bringing supply and demand together. Delivery could mean different things at each emergency stage, for example setting up temporary warehouses or shelters during the pre-event stage or delivering relief to affected people during the response stage. Distribution operations within an emergency environment are very challenging. Due to the complexity of the sourcing process and the uncertainty of demand, there could be a big gap between supply and demand in terms of mix, quantity, timing, and location, and matching them becomes a hard task. UNHCR uses country operations plans , early warning alert systems and continuous need assessments to ensure that sufficient data and information exists to enable reaching a balance between supply and demand when and emergency occur.

Handling expertise becomes more challenging due to the large span of relief items and the use of *ad hoc* warehouses. Transportation infrastructure is highly dependent on the location; it may be damaged or disrupted and suffer from rapidly changing conditions. Additionally, communication infrastructure may be disrupted. Because of the sudden onset of most disasters, problems associated with inadequate distribution planning are common,

including high expediting costs, choice of wrong transportation mode and/or provider, bottlenecks in the port of entry, and incomplete execution. Hence, preparation during the pre-event stage is vital, and strategies such as the use of staging areas for pre-positioning and distribution of relief supplies help overcome the difficulties in getting the right supplies to the right people, at the right time, at the right place. Humanitarian supply chains delivery operations may have different targets from entities that are driven by profit-making motives. For humanitarian service agencies, there is usually a trade-off between cost and responsiveness of the delivery process. In the cases of emergency supply chain, responsiveness concerns saving lives and minimizing human suffering which will have priority over operational cost. In the case regular supply chains, cost remains a priority due to limited resources and also considering that their maybe minimal threat to human life. Since every human life is equally valuable, fairness is a particularly important criterion for emergency supply chains, and their responsiveness should not be based to the social or economical condition of the affected people.

2. 5. Theoretical Framework

Theories are statements or proposed explanations for a set of coordinated occurrences or relationships. Research draws upon theories to make sense of empirical data and to test arguments and assumptions about relationships between facts or phenomena. The theoretical framework utilized in this study focused on the relationship between organization structure and delivery of services in humanitarian emergency operations as conditioned by disaster contingencies. Anomie sociologically describes a condition resulting from lack of or eroded norms. A lack of social ethic produces moral deregulation and an absence of legitimate aspirations (Durham 1893). Therefore failures in the humanitarian supply chain emanating from denied access to deliver relief goods due to conflict or insecurity, competition and lack of co-ordination can be equated to eroded norms and a failed theory of humanitarianism. An entity requires not only sufficient resources, but also organization coupled with effective and efficient coordinated management. According to classical theorist such as Taylor, Fayol, Weber and others, there is a single best way for organization to be structured. But a critic by later works confirms that organizations vary considerably on structural attributes.

Therefore in contrast to the classical scholars, later ones have proved that there is no one best way to organize. What is important is that there be a fit between the organization's

structure, its size, its technology, and the requirements of its environment. The focus is on the interaction between the environmental uncertainty, the organizational structure and various aspects of performance according to Johannes .M. Pennings (1967). Bureaucratic administrations which are common in humanitarian Supply Chains, means fundamentally the exercise of control on the basis of knowledge (Weber, 1947). For the sociologist, power is principally exemplified within organizations by the process of control. Max Weber distinguished between authority and power by defining the latter as any relationship within which one person could impose his will, regardless of any resistance from the other, whereas authority existed when there was a belief in the legitimacy of that power. Weber classified organizations according to the nature of that legitimacy, which is the case today with most humanitarian agencies, divided according to their respective mandates, although some do overlap resulting to duplication of efforts.

2.5.1. Chaos theory

In chaos theory, "The Butterfly Effect" refers to the discovery that in a chaotic system such as the global weather, tiny perturbations in the system may sometimes lead to major changes in the overall system (Lorenzo 1961). It is theoretically possible that a slight rise in temperature in the ocean off the cost of India will create tiny changes in the air flow that would eventually lead to different weather in Asia and Africa. In most cases the slight change would make no difference whatsoever, but when the system is unpredictable at a certain stage, the future may unfold quite differently, depending upon what little difference occurred. In a humanitarian Supply chain, most slight changes will always have major changes, especially due to the uncertainties. For example insecurity will change the entire routing, type of transport to be used, distribution mechanism and who should do the distribution. In an emergency operation there is also social disorder and panic. Based on the social Panic theory, the people's perceptions within an operation are that danger exists and there is scarcity of resources. This creates panic and people avoid places where danger is more likely to be encountered. There is also a struggle over few available resources that could lead to violence or stampedes. The challenge to the humanitarian Supply Chain is that most vulnerable people and those in need of relief items are mainly located in the zones classified as dangerous.

2.5.2 Social Network theory

The theory views social relationships in terms of nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. There can be many kinds of ties between the nodes. In its most simple form, a social network is a map of all of the relevant ties between the nodes being studied. The network can also be used to determine the social capital of individual actors. According to Max Weber (1946) there is the principle of fixed and official jurisdictional areas, which are generally ordered by rules, that is, by laws or administrative regulations. The point sums up the existing bureaucracy in the humanitarian community and how actors relate to each other specifically in the supply chain process, being the most visible function during an emergency operation. A review of social networks² would help in establishing how different entities and actors interacted in the emergency situation in Lebanon to achieve mutual goals. It would particularly focus on the formal and informal connections that the top humanitarian managers as well as individual employees established at different levels to meet their objectives. It would also be a useful means of establishing the impact that these networks had on the humanitarian operations in Lebanon

Furthermore these networks would help in the understanding of ways in which UNHCR and other agencies gather information, unite for a purpose such as overcoming government access restrictions, and even collude in setting humanitarian agenda and policies. In addition to the use of relational concepts helps reveal actors and their actions interdependency and how they supplement each others efforts in practice. Cooperation between organizations therefore would imply some level of interdependency among these units exist (Ouchi 1980).

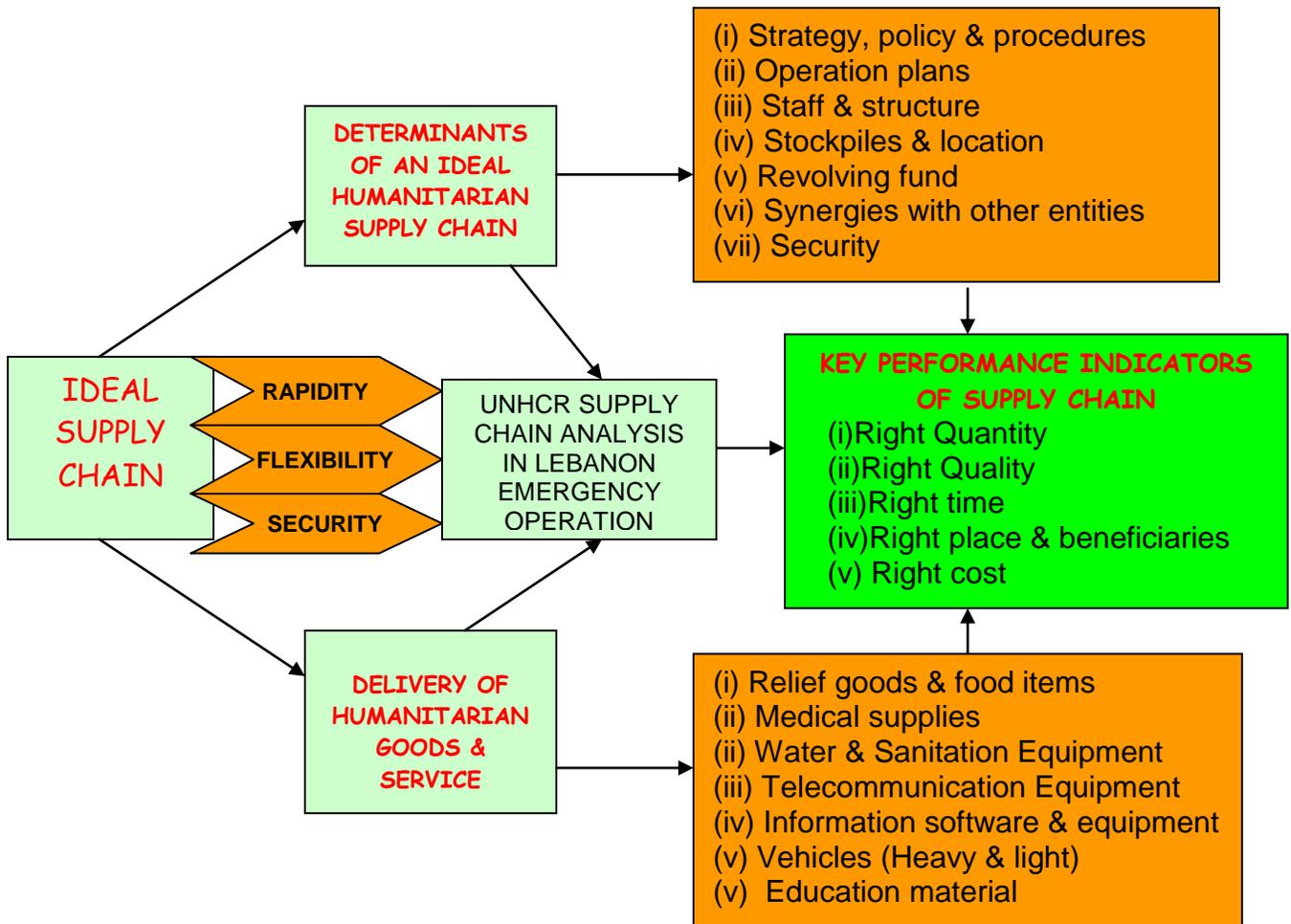
2.6 Conceptual Framework:

An ideal supply chain must be rapid, flexible and ensure security of staff, goods and beneficiaries. The three aspects would be determined by several other factors which would include, existing organizational strategy, policy, procedures; staffing systems and structures, stockpiles and location, including the transport infrastructure. It is the

² The term, social network, has been used to describe ties across formal boundaries on the basis of gender, social class, ethnicity, family, business relationships, etc. With the advent of the internet, social networks expanded to communities of interest crossing geographic boundaries. The social networks of a major global corporation, for example, are bewildering. There are formal and informal networks within departments, across multiple departments and across geographic locations. There are vendor relationships that are singular with one individual or multiple with various individuals and departments (Horton .James. L 2008)

organization of the above components that would determine the delivery of the emergency response or humanitarian services. The key performance indicators would be the delivery of supplies and services in the right quantity, right quality, at the right cost, in a timely manner and to the right population or targeted population.

Figure: 2 Conceptual Frame-work



2.6.1 Operational Definition of Variables

The dependant variable was the delivery of the humanitarian emergency services in Lebanon which was operationally defined by focusing on how timely deliveries to beneficiaries were. This would be correlated with the independent variable- the UNHCR supply chain implementation during the Lebanon crisis. The independent variable was operationally defined in terms of co-ordination of the UNHCR supply chain measured by

coherence of coordination both within the organization and with other external actors. Other measures of this variable were the quality of the service and items delivered. This variable was also measured by assessing staffing structures, staff deployed capabilities; respect of procedures and application of global sourcing techniques, such as; stockpiling, establishing of local frame agreement and use of UNHCR Supply software (PeopleSoft – MSRP) and systems applied during the operation. The assessment will therefore help the study in answering the question if the existing UNHCR supply Chain strategy was effective and efficient in delivering the humanitarian emergency response objective.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the methodology employed in this study. It details the approaches used to address the main objective of this study which was to analyze the impact of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the 2006 Israel-Lebanon war crisis. The chapter focuses on describing the

research design, the study site, unit of analysis, the sources of data, sampling methods, methods of data collection and the methods of data analysis and presentation.

3.1 Study Site

The study was on Lebanon Emergency, focusing on UNHCR supply chain performance. Lebanon is a small, mountainous country, which was under French mandate until independence in 1943. Its population of about 4.1 persons (UN 2008) is a mixture of Christian sects, Sunni Muslims, Shia Muslims, Druze and others. Government structures are divided between the various groups. From 1975 until the early 1990s Lebanon suffered a bloody civil war in which regional powers -particularly Israel, Syria and the Palestine Liberation Organization - used the country as a battlefield for their own conflicts. Syrian troops moved in shortly after the war started. Israeli troops invaded in 1978 and again in 1982 before pulling back to a self-declared "security zone" in the south from which they withdrew in May 2000. Syria exerts considerable political clout in Lebanon, although it withdrew its troops in 2005, ending a 29-year military presence.

Majority of UNHCR's operations begin as a result of an emergency caused by a sudden influx of refugee and IDP's. The organization's procedure reflects that much of its work is built upon emergency interventions and responses. There are situations, however, that are clearly exceptional and the Lebanon conflict in 2006 between Israel and Hezbollah was one of those exceptional ones for UNHCR in the recent past. The country is one of the most complex and divided countries in the Middle East region. Lebanon has been on fringes, and at times at the heart of the Middle East conflict surrounding the creation of Israel. The country has been a refuge for the region's persecuted minorities as seen, for example, in several large influxes of Palestinian refugees, most of whom have limited legal status. Therefore this made it a relevant site to study UNHCR Supply chain functionality with regard to the discharge of its mandate to refugees and Internally Displaced Persons. (UN 1951 Refugee Convention).

The choice of Lebanon as the study site was based on the unique mandate of UNHCR in providing assistance to internally displaced persons (IDP's) which was different from its traditional role of protecting and assisting refugees. The site therefore was to provide an opportunity to assess how UNHCR managed this new and more challenging responsibility, in a war zone, highly politicized operational environment and crowded with other

humanitarian agencies. The site thus helped the study to undertake a detailed investigation of individuals, groups, institutions and other social units involved in the emergency operation.

3.2 Research Design

This study sought to examine the UNHCR response to the humanitarian crisis precipitated by the military confrontation between Israel defense forces and Hezbollah fighters in Lebanon in 2006. In any humanitarian emergency the delivery of supplies and services in the right quantity, right quality, at the right cost and in a timely manner is central to the alleviation of human suffering and saving of lives. Taking into consideration the importance of management of emergency supplies this study therefore focused on the analysis of the implementation of the UNHCR supply chain during the Lebanon crisis and its impact on the delivery of humanitarian emergency services. This study employed the survey method to obtain information on the UNHCR supply chain. In research a case study defines a study that focuses on a single case and which could incorporate both qualitative and quantitative study approaches. The case study method is typically used to answer research questions like “how” or “why” on a phenomenon like the 2006 Lebanon emergency crisis. This method relies on multiple sources of evidence and benefits from the prior development of theoretical propositions that allows researchers to establish why particular instances or occurrences happened as they did and also what might become important to look at more extensively in future research.

3.3 Unit of Analysis

The unit of analysis in this study was the supply chain strategies that UNHCR adopted in Lebanon during the 2006 crisis. The study analyzed the efficiency and effectiveness of the strategies used in managing the supply chain based on the identified units of observations.

3.4 Sources of Data

The study utilized both primary and secondary sources of data. The secondary data and information were those obtained from both published and unpublished literature found in various offices and libraries. These included magazines, organizational newsletters, mission reports, UNHCR policy documents and procedure manuals, emergency response evaluation reports, various publications in Supply chain and Logistics, government policy documents and NGO publications besides other forms of literature. The study also gathered

secondary data and information from other UNHCR past emergencies, from various locations during various field missions made by the researcher, for example Afghanistan, South Sudan, Dadaab Kenya, Syria, Dubai and Lebanon as the main site. The primary data was the actual data and information gathered during the study and case review from respondent and through participant observations and questionnaires.

The five main elements listed in table one below are the units that were observed in order to establish how they contributed to the supply chain performance. The elements were Supply staffing and organization. Secondly was the stockpiling of relief goods, which is the main resource that UNHCR activates within hours whenever an emergency occurs. This element helped the researcher to analyze the social link provided by the stockpile among existing actors and if the stockpiles are adequately located. Thus the element helped to identify the role of these resources in the social structure of the organization. Thirdly was the UNHCR Supply Chain performance assessment and the element helped in identifying social implications incase of failure. Fourthly was the coordination component, for example effective communication, need assessments and information management of the UNHCR supply chain and the service delivery in Lebanon. Fifth and last component was the analysis of UNHCR Supply policies and procedures. This helped consolidate the process in which decisions are reached.

Table 1: Key Sources of Data

Sources	Justification for the selection
(1) Supply chain staffing and organization	UNHCR central resources that determines success or failure of its supply chain

(2) Relief goods Stockpiling and pre-positioning & location	The link that causes social exchange and capital between UNHCR, Donors, Beneficiaries and other humanitarian agencies
(3) UNHCR Supply Chain Performance assessment	Supply Chain success enhances social Solidarity and failure creates disintegration among humanitarian actors
(4) Operational environment and interagency Co-ordination	Good Supply Chain co-ordination depicts existing social capital in a given humanitarian operation
(5) UNHCR Supply Chain Policies & Procedures	The “laws” that governs how decisions are reached in a supply process in UNHCR

3.5 Sampling Methods

Purposive sampling technique was used to sample UNHCR staff in the supply chain and those whose functions were connected with the Supply department. The staff included those in Programme Unit, Administration, Finance and security. The four sections are important since most activities taking place in the Supply chain in Lebanon had a direct link to these sections. For example the Programme Unit requests for relief goods, based on the budget established and approved by Finance Unit, The Supply Unit acts on the programme requests by procuring the goods and after the procurement has been completed, Finance pays the suppliers to complete the cycle. Security section is also important and worked closely as safety advisors to the supply chain function to ensure safe transportation of goods and persons during the operation. Therefore based on the nodes and ties that exist between Supply and the four sections, drawing a sample across would help in reducing the bias in the data collected. The sampling technique was found appropriate because only those who have experience or knowledge of the supply chain functions in a humanitarian organization were interviewed. Consequently staff that work in or interact with the supply chain were purposively identified and interviewed to analyze their perceptions and experiences. Out of the targeted ninety respondents, seventy seven were interviewed. Out of the seventy seven, Forty five were from supply section, twenty from programme section and twelve from administration section. The thirteen that were not interviewed were left out

due to reasons such as being on leave, reassigned to other operations, or not available for interviews due to competing work priorities.

3.6 Techniques and Tools of Data Collection

Different combinations of techniques and tools were used to collect data. The main technique of data collection was the interview method. The study mainly utilized a questionnaire and an interview schedule to elicit information from respondents. Other techniques used were direct observations and desk reviews of published and unpublished literature. The applications of these techniques are elaborated below.

3.6.1 Face-to-Face Interviews Using Questionnaires

Questionnaires with both open and close-ended questions were administered face to face with UNHCR staff, totaling to seventy seven. An interview schedule was used to interview key informants who were senior level supply managers, operations managers, heads of field offices, programme and Security staff. Key informants were purposively sampled from WFP, UNHCR and UNICEF, totaling to nine. Questionnaires were administered face to face, using predetermined set of questions with predefined answers which made the data amenable to later analysis. By using questionnaires data were easily entered into a computer spreadsheet, tabulated and analyzed. Questionnaires seemed also to be familiar to most respondents with nearly all having had some experience being interviewed using questionnaires. Using well structured, uniform and standardized questions, there was less bias in the data collected. The structure of the questionnaires was in such a way that a question does not influence the response to subsequent questions. The standardization of the survey enhanced reliability, generalizability, and validity. Using face-to-face, researcher administered questionnaires although more intrusive than telephone surveys had the advantage of saving on time. This is because in self administered questionnaires when a respondent receives a questionnaire in the mail, they are free to complete the questionnaire on their own time-table. The primary disadvantage of using questionnaires was the rigid and inflexible way in which data had to be collected in that the researcher was unable to benefit from much interactivity in the research, especially considering the rigidity to the questionnaire formats which had to be adhered to (Houtkoop-Steenstra, 2000).

3.6.2 Face-to-face Interviews Using Interview Schedule

Semi-structured interviews instead of unstructured interviewees were used to elicit information from the key informants because the researcher already had a basic understanding of the phenomenon and wanted to pursue particular aspects of it. In this way the study was appropriately focused. Semi-structured interviews were found to be useful to gain an in-depth understanding of the supply chain system within an emergency context. The approach allowed interviews with conversations that were mutually shaped by both parties. The researcher was aware that imposing structures on the interviews could inhibit the interviewee's responses and was likely to create an incomplete understanding of the phenomenon of interest

3.6.3 Direct Observations

Apart from questionnaires, participant observation was used in gathering qualitative data. This method enabled the researcher to immerse in the subject matter and therefore observe the Lebanon emergency operation in its natural settings. The study blended data collection methods that ranged from passive (observation) to active (participation). The distinction between participation and observation was based on the researchers closeness to the subject matter. The observation involved external evaluation and recording of events without interference whilst participation represented an internal view in which the researcher recorded views from within the group in Lebanon by acting, overtly or covertly, as a member in order to experience the actuality of the events. One of the advantages of participant observation is its ability to facilitate the collection of 'rich' information that is frequently not available from other sources (Babbie, 1995). As such, it was used to supplement, inform or contradict theorized research and greatly enhanced the available knowledge on the field humanitarian supply chain subject matter.

Observation and participation within the natural setting elicited real and genuine information that has not been filtered or amended by the research participants as can occur in relation to interview or questionnaire data, thus provided unique insights into the subjective viewpoint of the participants in the study. With observation, participants may also not have realized that they were being watched so they did not moderate their behavior in any way thus the data gathered was unadulterated. The method also provided richer information than interviews or questionnaires because it took into account non-verbal interaction and behavior (Berg, 2003). Therefore the study found it a valuable method of researching the influence of structures or events on individuals and groups, especially on humanitarian

supply. There was also the possibility that unexpected and unanticipated do occur during the course of the observation hence its value in accessing unique data (Berg, 2003). For example, in studies of the way in which mentally ill patients are treated by psychiatrists and others in the medical profession, researchers were admitted into mental health facilities by posing as patients so that they could experience the reality of life within such an environment, something that would not have been possible had they announced their presence and their purpose (Winstein, 1982). As this example demonstrates, participant observation can be a way to access information from those who might be reluctant to give interviews or who would present a policy-driven view of the subject (Bogdan, 1972). Sometimes, the only way to get around such obstacles is to gain surreptitious access to the environment in order to experience directly what is happening (Spradley, 1997).

The limitation in the study by using this research method was that it was very time-consuming, both in terms of the actual observations and in preparing and analyzing the large amount of resultant data. This may make it a less cost-effective means of conducting research (Jorgenson, 1993). Another limitation is that it involved the observation of only a few examples of a particular subject, in this case the Supply Chain staff behavior and events, therefore was limiting to the extent to which the findings are amenable to generalization (Spradley, 1997). A further criticism that can be leveled against participant observation is that it is inherently subjective as it did not only focus on a single (or limited number) of particular observations but that the recording of the resultant data was subject to the researcher's interpretation (Jorgenson, 1993). Accordingly, there is a possibility of conscious or unconscious bias which is inconsistent with its appearance, particularly in relation to observation rather than participation. This criticism further arises from the fact that in participation the researcher played some kind of role in events that unfolded and thus was not a mere passive recipient of information but someone who contributed to the shape the content of the resultant data (Spradley, 1993).

3.6.4 Desk Reviews

Using existing documents as a means of secondary data analysis saved time that would otherwise be spent collecting data particularly in the case of quantitative data. The documents reviewed provided a wide range of quality information that would otherwise not be feasible for any individual researcher to collect on their own. The documents were helpful in the subsequent study design and in the collection of primary data apart from

providing a baseline with which to compare the collected primary data. While reviewing the documents, the researcher was able to examine what the motives of the agency and the researcher were when collecting the data. It was possible to examine in particular what data was collected and what it was measuring; when the data was collected and methods used, including the organization and data consistency. While reviewing the documents, the study kept the focus on the importance of data quality and source. This was in view of the fact that even data from official records may be unreliable in terms of methodological validity and reliability.

3.7 Data Analysis and presentation

The qualitative and quantitative data obtained were cleaned, organized, summarized and presented thematically as well as in tables. The resulting tables were used in the analysis and interpretation of the data. For example simple percentages were used in describing and summarizing data quantitatively. Frequency counts were converted to percent by dividing the number of units for a particular category by the total number of units and multiplying by 100. Percentages were used since they are often more easily understood than the corresponding frequency counts. Simple matrices were used to compile interview data so that patterns among different types of respondents (for example, stocks in different locations and difference in terms of meeting timely deliveries) could be detected. This allowed the study to present descriptive data and what the data says. Simple frequencies and relationships between variables such as staff and location and the type of response to a particular question were analyzed using Excel computer software. By integrating the respondents' views with the definitions of "contexts", and summary of observations, the study was able to make a clear distinction between what the data says (descriptive data) and what the data means (researcher interpretation).

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter is a descriptive presentation of the collected field data. The study sought to analyze the impact of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the 2006 Israel-Lebanon war crisis. The analyzed data was to help in answering the key research question as to whether the UNHCR supply chain management strategies in Lebanon were appropriate for delivering efficient and effective humanitarian emergency services. The analysis focused on the following four key study objectives listed below;

- a. Describing the supply chain management strategies that UNHCR adopted in Lebanon during the 2006 crisis.
- b. Assessing the contributions of these strategies in delivering relief during the Lebanon crisis
- c. Assessing the limitations of the UNHCR supply chain management strategies during the Lebanon crisis
- d. Analyzing the efficiency and effectiveness of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the Lebanon crisis.

4.1.0 UNHCR Supply Chain Management Strategies in Lebanon

The first objective was to describe the supply chain management strategies that UNHCR adopted in Lebanon during the 2006 crisis. These were the observations on the UNHCR supply chain management strategies in Lebanon during the 2006 crisis.

4.1.1 Supply Chain Organization Structure & Staff Location

The Supply Chain organization consists of the Headquarter (HQ) based Supply Management Service (SMS) and of Supply Units in the field that expand, contract or multiply according to operational needs. A unit may cover more than one operation, or multiple units may cover a single large operation. In small offices, staff from other organizational units may execute some or all of the Supply Chain functions. Whether the staff performing these roles is part of a formal Supply Chain section or not depends on the size of the operation and its involvement in Supply Chain activities. Supply Management Service (SMS) is organized into two Sections;

- Procurement Section
- Inventory and Field Support Section.

The data summarized below in table three measures how far or close UNHCR supply chain staff are to the operations and beneficiaries. The data confirms that most UNHCR offices with the presence of supply sections are classified as Branch offices represented by over 62%. Only 16% is classified as Field Offices while 22% falls under Headquarters or Regional office. Since Branch offices, Headquarter and Regional offices are located in capital cities or urban centers, it depicts that majority of UNHCR supply staff (82%) are in urban areas, thus far away from the actual operations and beneficiaries who are commonly

found in remote areas, classified as field offices. This is a very negatively skewed representation given practical supply and logistical demands at the field office or refugee camp level.

Table 2: Classification of Respondents by Office Location in UNHCR Supply Chain

SURVEYED TOPIC – Office classification where supply Unit exists	Data classification	Number of respondents	Percentage representation	Cumulative Percentage
(1) Branch Office – BO	BO	48	62.34%	62%
(2) Field Office – FO	FO	12	15.58%	78%
(3) - Headquarters – HQ	HQ	13	16.88%	95%
(4) Regional Office – RO	RO	3	3.90%	99%
(5) None classified or not clear.	No data	1	1.30%	1%
Total		77	100%	

The interpretation from the study is that even with the few supply officers available across the organization; most of them are distantly located in urban centers such as Nairobi, Accra and New Deli, far away from refugees and Internally displace persons⁴. Refugee camps and emergencies do not occur in urban centers, in most cases the refugee case loads are in very remote zones, usually at border crossings of countries. For example during the Lebanon emergency, there was no single supply and logistic staff within the country, while other functions such program, finance and protection staff existed. The supply staffs that were sent in the operation were from other operations sent in on mission as a temporary measure. The case is not unique to the Lebanon case but common in most UNHCR operations.

⁴ Robert Chambers outlines some key approaches to poverty and ways to end it through participatory approaches. He suggests that while poverty may never be made history, a sharp reduction can be achieved if powerful professionals become more participatory and get closer to and learn more from those who live their lives in poverty; and then act on what they experience, learn and feel. Development (2007)

4.1.2 Supply Chain Staffing

Like all major humanitarian agencies, UNHCR emergency operations require its supply chain and logistic entity to organize and implement a rapid delivery responding to a crisis. Very often large amounts of people, food, shelter, clothing, heavy machinery, and medical supplies must be moved into and around the disaster area using many different modes of transportation. Usually lives are at stake and a lot of human suffering due to the affected normalcy of individual or groups within a given habitat. This must be done quickly, while holding down costs. Haghani and Oh (1995) describe the relief chain as a multi-commodity, multi-modal network flow problem with time windows.

The management of this difficult supply chain directly affects program quality. The higher the programme quality the higher the social attraction, confident and social ties UNHCR gets from beneficiaries, donors, and local governments. Other humanitarian organizations too would like to be associated with the one that is seen as successful or attractive. Among the most important resources for any humanitarian supply chain are first; structures, staff and its organization, secondly; stockpiles or relief goods and their locations or proximity to disaster zones, thirdly an accountability mechanism that measures performance, thus regulating human behavior and motivation to succeed or avoid failure. Fourthly is co-ordination, which is the linkage of different functions internally and externally to the organization, ensuring they all work in tandem towards set objectives. Lastly are the policies and procedures that act as “law” to govern how decisions are reached in all processes within the organization.

On UNHCR supply Chain staffing qualifications and profiles, the study revealed that despite 62% of the staff having a university degree (39% have a first degree and 23% have masters), only 20% have a formal professional supply related qualifications. Less qualification in a work environment can trigger social classes and this can be detrimental to performance. The remaining 38% have Diplomas or below. Majority of those without degrees being locally recruited staff within country offices. Sociologically, in a world raven by division and marked by forms of oppression, both old and new, from the study the researcher concurred with Giddens (1991) that emancipatory politics will not decline in importance. Supply function in UNHCR and other agencies where they have been “oppressed” will continue asking for equality and fair resources distribution. Social distance

reduces social cohesion and affects social decisions reached in an organization and society at large.

The study findings helped to advance a theory that humanitarian agencies with their supply chain personnel closer to their beneficiaries, inside their operations, closer to other humanitarian agencies and donors will interact strongly while those who are socially distant will have little interaction. In this example, inherited or proclaimed social position created by the current UNHCR supply structures is interpreted by the study as creating a social class which plays a dominant role in creating social distant. In the process social cohesion which I see as a bond or “glue” that brings people together in society as described by the social policy is missing due to the social distant created by UNHCR supply chain structural functionalism. The other important dimension refers to the positive interactions, exchanges and networks between individuals and communities, or "active social relationships". Such contacts and connections are potential resources for places since they offer people and organizations mutual support, information, trust and goodwill.

4.2 Contributions of the strategies to the Delivery of Relief

The second objective was to describe the supply chain management strategies that UNHCR adopted in Lebanon during the 2006 crisis. The findings on the contributions of the UNHCR supply chain strategies on the delivery of relief during the Lebanon crisis were as follows:

4.2.1 Supply Chain Performance Assessment

According to the study, a good supply chain performance enhances social solidarity and failure creates disintegration among actors. Majority of the respondents, represented by over 79% indicated that UNHCR international purchases are delivered within 30 - 45 days. This is a long delivery lead-time in view of the humanitarian and the organizational mandate expectation of delivering relief goods and services to refugees within 72 hours whenever an emergency occurs. Although UNHCR has stockpiles, the capacity often times is overstretched because of simultaneous emergencies and therefore a good procurement plan and relationships with key suppliers is paramount to humanitarian social action.

The study revealed a worrying delivery trend that is likely to jeopardize the cohesion between UNHCR, donors and beneficiaries. About 12% of deliveries reach the beneficiaries

within 15 -30 days and 8% reaching the final destination in over 45 days, this distribution is completely off target. 1% of the deliveries could not be classified due to respondents not being able to provide an estimated delivery lead-time. The organization need to review this component closely and correct it otherwise donors are likely to move more to alternative service providers, who are mainly international NGO's and some local. This new entrants are proving competitive to UNHCR and the larger UN community, with the beneficiaries social capital also fading due to failure in the week procurement cycle.

Table 3: Delivery Delays of goods procured through headquarters or released from stockpiles

Purchase using local or regional frame agreements	Data classification	Number of respondents	Percentage representation
(1) (< 5%)	1	14	18.18%
(2) (>5=10%)	2	46	59.74%
(3) (>10=15%)	3	15	19.48%
(4) (>15%)	No Data	2	2.60%
TOTAL		77	100%

4.2.2 Local and International Procurement

In cases where emergency relief items are available locally, a comparison of local and international prices needs to be done. In case where materials are available in the local market, initial purchases should be done locally. Local procurement advantages over international purchases include: lower prices, speed, and flexibility of delivery local acceptance by beneficiaries, benefits and incentives to the local economy – particularly in areas affected by a large refugee influx. However the disadvantages of local purchase includes, higher prices, frequently low quality, sudden price increases due to sudden heavy demand on the local market, adversely, affect the local consumers, causing resentment and higher maintenance costs for UNHCR camps.

4.2.3 Long Term Strategic and Standing Procurement Arrangements

Existence of long term supply agreements – LTA’s (“Long Term agreements”) for a range of products is to ensure the availability of goods of a standard quality at competitive prices on short notice. These items include blankets, plastic sheeting, essential drugs, kitchen sets, semi-collapsible jerry cans, and buckets. Support and office items supplied under frame agreements include light vehicles, vehicle tires and tubes, generators, ballistic armor, computer and telecommunications equipment among other. LTA’s are developed through competitive bidding. The study revealed that majority of UNHCR operations have no regionally or locally developed frame agreements to help shorten delivery lead-times when emergencies occur. This is a weakness in supply chain emergency preparedness for response. The field over relies on the SMS at headquarters on the supply function for purchases and delivery from central emergency stockpiles in Dubai and Copenhagen. Most operations (77%) procure less than 10% using the frame agreement arrangement. Therefore most purchases are ad hoc with the buying process being initiated when need arises. This is therefore a big barrier for timely delivery of goods to assist and protect disaster victims.

4.3 Limitations of the Supply Chain Management Strategies

The third objective was to assess the limitations of the UNHCR supply chain management strategies during the Lebanon crisis. The findings on this objective were the following.

4.3.1 Stockpiling and Location of Emergency Supplies

Stockpiles have a central and social role in humanitarian emergencies. Stockpiles as a variable represent tangible relief goods and assets that are kept by UNHCR at locations deemed convenient in terms of a supply chain action, in case of an emergency. The data analysis from this variable tested the limitation of UNHCR supply chain strategies. The data assessed how the UNHCR demand forecast, stockpiling composition and the stock locations are. Sociologically the study equated the Supply Chain as the tenet of social exchange and the stockpiles is the tangible good that facilitates the social action⁵.

⁵ Social action is an exchange of (tangible or intangible) activities and rewards/costs between individuals on the grounds that people have always explained their conduct by means of its benefits and costs to them (Homans, 1961: 12-3). Exchange represents the

Stockpiles are funded by donors expecting in exchange UNHCR to deliver a humanitarian service and save lives of Refugees and internally displaced persons (IDP). Refugees in return expect goods and services from UNHCR in exchange of nothing tangible as compared to a commercial transaction exchange. However expected from the refugees or affected persons is intangible and is by means of making themselves feel comfortable and to show solidarity with the international community on humanitarianism. Testing if the stockpiles are strategically located, over 94% of respondents viewed the UNHCR emergency stockpiles as not being strategically located. While most of them agreed that Dubai frequently serves the purpose due to the proximity to most UNHCR operations in Africa and Asia, they all confirmed that Copenhagen do not serve the purpose.

Table 4: Suitability of Emergency Stockpiling Locations

SURVEYED TOPIC – Location suitability of the emergency stockpiles.	Data classification	Number of respondents	Percentage representation
1 - No (Locations not appropriate)	1	73	94.81%
1 - Yes (Locations appropriate)	2	3	3.90%
3 - Not sure / No Data	No data	1	1.30%
TOTAL		77	100%

basis of human behavior (Homans, 1961: 317) and is pervasive throughout social life (Coleman, 1990: 37- 39).

Only 4% of the respondents viewed both locations of the stockpile as being strategic and serving the purpose. 1% was not sure of the arrangement.

4.3.2 Theoretical Analysis of Humanitarian Stockpiles Management

The key tenet of social exchange theory is that human behavior is in essence an exchange (Homans, 1961: 12-3). Actors in exchange are not only individuals but also groups, and that in-group processes and inter-group relations are more complex than being sets of market transactions. Therefore without stockpiles, there may be no exchange among the actors. Therefore an efficient and effective supply chain by UNHCR will ensure timely exchange process, satisfying all the actors. Beneficiaries will therefore receive goods, while donors in return will receive reports that the funds given to UNHCR were used to buy stocks (Relief goods) and distributed to targeted beneficiaries as envisaged. Therefore the study reveals that stockpiles which are a supply chain responsibility do promote exchange. Therefore as a catalyst of exchange, UNHCR needs to ensure that it is strategically and conveniently located closer to refugee and emergency prone areas, specifically in Africa and Asia⁵.

The challenge for UNHCR however remains donor vested interests who sometimes dictate where to stockpile and what to stock. This is driven by economic interests whereby they are able to create employment for their nationals in the supply chain cycle, including goods suppliers and services providers such as clearing and forwarding companies. The exchange transactions between Donors, UNHCR and Beneficiaries are reciprocal, but donors do determine the reciprocity. If the reciprocity is not observed such transactions will tend to eventually discontinue. For example the UNHCR Stockpile located in Copenhagen has been rendered according to my study finding as being too far from beneficiaries and not convenient for an effective supply chain action. However since UNHCR relies on the donors to provide the warehousing or storage facility, including paying of utilities and salaries of the staff in the warehouse, the donor plays the central and control role in the exchange process. In psychological terms, terms the exchange between UNHCR and its donors is seen as a social interaction that is characterized by reciprocal stimuli or mutual reinforcements. Namely, exchange relations are “by definition reciprocal, and if this reciprocity is broken the relationship will extinguish over time. Within the attribute of reciprocal reinforcement, the concept of an exchange relation contains an ‘exchange ratio’ (balance-imbalance).

This variable set the stage for, introducing dependence, power, and cohesion” (Emerson, 1969: 387-389). As regards the character of social exchange in relation to economic transactions, the former is constituted by activities of purposive actors in the case of a “configuration of interests and resources”, and the latter (a market institution) by interdependent exchange transactions (Coleman, 1986). Assuming that exchange transactions are reciprocal, if reciprocity is not observed such transactions will tend to eventually discontinue. In psychological terms, an exchange is therefore defined as social interaction that is characterized by reciprocal stimuli or mutual reinforcements. Namely, exchange relations are “by definition reciprocal, and if this reciprocity is broken the relationship will extinguish over time. Within the attribute of reciprocal reinforcement, the concept of an exchange relation contains an ‘exchange ratio [balance-imbalance]. This variable sets the stage for introducing dependence, power, and cohesion” (Emerson, 1969: 387-389).

4.4 Effectiveness of Supply Chain Management Strategies on Delivery of Humanitarian Emergency Services

The fourth objective was to analyze the effectiveness of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the Lebanon crisis. On this objective the study revealed the following.

4.4.1 Interagency Coordination during the Emergency Operation

Despite recent merger of the Emergency Section and Supply Management Service in the same Division, over 79% have not seen much change, majority being from the field. 19% confirmed a noticeable change out of which majority were from headquarters. Since the merger is also recent more time is required to review level of efficiency and operational effectiveness achieved⁶. Over 72% confirmed that UNHCR Supply chain needs to be

6 Wassenhove; 2003; Gustavsson, 2003; Thomas and Kopczak, 2007), because approximately 80 percent of all relief operations interact with supply chains at some point during their efforts (Fritz Institute, 2007). Yet few disaster relief agencies pay attention to the design and implementation of supply chain or logistics management operations; fewer still recognize that such operations have a key strategic function (Thomas, 2003a, 2005). Rather, most resources go to support the more visible aspects of disaster relief operations, meaning that agencies typically lack staff that possesses supply chain and logistics management competencies and, in turn that their operations may not be as effective and efficient as possible.

involved closely in contingency planning at the pre-emergency phases. A big number of over 85% of the respondents were not satisfied with the role and action taken by SMS during emergencies. Majority sees a more strategic and merged division with a clear delivery approach as a way forward. A focused coordination between the emergency and supply function will enhance efficiency and cost effectiveness.

Table 5: Respondents' Rating of Link and Co-ordination Mechanism for Supply Services

Supply Chain Function Co-ordination with other Units	Data classification	Number of respondents	Percentage representation
1 - None existent – POOR	1	1	1.30%
2 -Occasional coordination – FAIR	2	69	89.61%
3 -Frequently co-ordinate – GOOD	3	6	7.79%
4 - Always co-coordinating – EXCELLENT	No data	1	1.30%

A major part of an effective emergency response is the prompt delivery of appropriate supplies. Emergency needs and the availability of appropriate local supplies should be timely assessed in consultation and coordination with local experts, suppliers, government representatives and other international agencies. The data on co-ordination reveals a need to proactively look at options to meet immediate needs. The best example is, If locally available items are appropriate, initial purchases, should be made locally. However, the cost-effectiveness of continuing local purchases beyond the initial phase of an emergency or the airlifting of relief items must be assessed in comparison with purchasing internationally. The data is also interpreted to highlight the importance by SMS to immediately build up a supply pipeline by using other less expensive sources of supply or means of transport instead of airlifts which are normally very expensive. The data reveals that planning for the worst-case scenario, bearing in mind flexibility and adaptability is important. Coordination with other parties in an emergency is essential, both inside and outside an organization in order to avoid duplication of efforts. It is important to ensure that appropriate arrangements for importing emergency items and clearing them through

customs are made well in advance at the port of discharge. Therefore, the data confirms the need for organizations to move from mere emergency response to sustainable strategic preparedness and mitigation.

4.4.2 Adherence to Supply Chain Policies and Procedures

Managing a supply chain within organizational policies and procedures is an important aspect of ensuring effectiveness of operations. According to the survey, as summarized in table 7 below, over 80% of the supply staff does refer at least to the supply manual - Chapter 8. 9% do refer to other manuals for example Chapter 4, which is a programme manual, and also the United Nations Financial Rules and Regulations⁷. This depicts that the staff are conscious of the policy and procedures and therefore majority do carry out their procurement processes professionally. The study revealed that 98% of the supply staff do always refer to various policy and procedure manuals, the main one being chapter 8. This is a positive indication, implying transparency in the UNHCR procurement process even in emergencies.

Table 6: Policy and Procedure Reference Conformity

SURVEY ITEM 13 - Reference documents for Supply Chain Policy & Procedures.	Data classification	Number of respondents	Percentage representation
1 - Reference to Chapter 8 Supply Manual	1	62	80.52%
2 - Reference to Chapter 4 Programme Manual	2	5	6.49%
3 - Reference Both 1&2 above and others	3	7	9.09%

⁷ To design policies for today and the future we need to understand social and economic processes at all temporal scales, and comprehend where we are in historical patterns. Historical knowledge is essential to sustainability (Tainter 1995a). No program to enhance sustainability can be considered practical if it does not incorporate such fundamental knowledge.

4 - Reference to others rather than I&2 above	4	2	2.60%
5 - Reference to none or no data provided	No data	1	1.30%
TOTAL		77	100%

4.4.3 Data Management and Reporting

Effective stock management and security are imperative and must cover the whole supply chain through to the final distribution to families or individuals. In procurement for example the preparation of purchase orders or contracts to suppliers, asset tracking and fleet management need software acceptable and useable across an organization. Such software does enhance resource control, monitoring and reporting. Example of reports generated will include stock levels, movements, losses, damage and distribution that can also be availed instantly when needed. UNHCR utilizes MSRP - PeopleSoft. The software helps in all the functional areas of the supply chain. The stock management system gives an over view of most stocks transactions and availability across in most operations. A sound stock management and distribution system is therefore essential in order to identify potentially critical shortages in time and assure final delivery for protection and assistance of persons of concern to UNHCR. Purchase order reports can also be generated, e.g. giving a summary on what has been ordered, quantities ordered and the expected delivery date.

From the study majority of UNHCR operations use the Supply Chain and Finance MSRP Software. Over 57% use the software in all transactions while 42% use it only partially. The fleet management module used to manage transport assets such as vehicles and trucks is not used at all. The software needs to improve as confirmed by over 81% of the respondents, majority being from the field offices. Most of the 9% who passed the software as excellent are based at Headquarter. Therefore what can be viewed as excellent at the Headquarters may not have the same rating at field offices. The data therefore reveals that, the existing software is yet to be adapted and accepted in emergency operations.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary, conclusions and recommendations of this study. The chapter summarizes the findings with reference to the key research questions and also presents the conclusions and recommendations in the light of the key research question as derived from the reviewed literature and the conceptual framework of the study.

5.1 Summary of Findings

Despite existing UNHCR policies on stockpiling, Staffing, supply policies and procedures and intended coordination both internally and externally, the Supply chain strategies in

Lebanon were inappropriate for delivering efficient and effective humanitarian emergency services. The analysis focused on the following four key objectives.

The study findings on the first specific objective conclude that the supply chain management strategies adopted in Lebanon by UNHCR did not work. This was mainly due to poor supply structures and staffing approach. The study revealed that UNHCR supply function is understaffed compared to other functions. Competency gaps in the supply function are evident, showing that only 20% have a formal supply chain qualification. The study concludes also that most supply staff represented by 82% is based in urban offices, which are normally far off from the operations and beneficiaries.

On the second objective of assessing the contributions of these strategies in delivering relief during the Lebanon crisis, the study concluded that the supply chain as per the conceptual framework was not ideal. The study confirmed a worrying trend where majority of the respondents represented by 79% revealed that on average deliveries from international suppliers or stockpiles arrive between 30 - 45 days. Late deliveries of relief items is contrary to the UNHCR emergency plan of action which states that assistance shall be delivered to beneficiaries within 72 hours after an emergency has been declared. The study therefore concluded that the UNHCR existing strategies did not provide the mandatory rapidity, flexibility and security required in a supply chain as highlighted in the study conceptual framework.

The conclusion on the third specific objective of assessing the limitations of the UNHCR supply chain management strategies, faults the location of the existing stockpiles. While stockpiling is an excellent emergency preparedness concept, the success will depend on the location of the stocks and the composition. The limitation to UNHCR however is that all strategies linked to this critical resource is donor driven. For example donors decide, what to fund, where to stock and worse still some of the stockpiles are earmarked for specific operations based on donor preferences and interests. Therefore UNHCR in some cases have minimal flexibility in disbursing stocks to some operations unless there are prior authorizations from the respective donor.

The analysis of the effectiveness of the UNHCR supply chain management strategies on the delivery of humanitarian emergency services during the Lebanon crisis was the fourth

and last objective of the study. The impact was that, despite the well documented supply chain policies and procedures across the organization, huge co-ordination gaps existed during emergency response both within and externally with other humanitarian agencies.. The study concluded with a need for improved, sustainable co-ordination both internal and external in UNHCR. The study viewed coordination as a way to enhance social capital in the humanitarian network.

5.2 Conclusion

The UNHCR supply chain response in the Lebanon emergency was not effective and efficient. The correct goods, in the right quantity and the right quality, did not reach the targeted population at the right time and right place. The intervention was therefore slow and inadequate.

The general conclusion is that donors social political approaches to funding, drives competition among humanitarian organizations, thus causing egocentric and competitive behaviors. Donor behaviors and funding patterns affects humanitarian entities strategies. With goodwill, donors can change the current egocentric behavior by humanitarian agencies to social centric which will certainly improve humanitarian supply chain service delivery to those in need. Based on this summary and conclusions, the recommendations from the study are as below

5.3 Recommendations

- i. The study recommends that UNHCR develop clear supply chain structures, reporting lines and adequate staffing in order to enhance their preparedness levels and in best case mitigate shortfalls. A supply staff skills and qualification mapping should be done and also ensure continuous training in future.
- ii. Regional or Locally long-term purchases agreements should be developed further to broaden the supply base and supplement global stockpiles. Specifications for items to be identified locally or regionally should be developed with the local needs in mind in order to promote product acceptability. Procuring items locally as a social responsibility by humanitarian agencies towards host countries and communities can enhance social capital and trust with the local population and host governments.

- iii. UNHCR and other humanitarian organizations need to strategically position their stockpiles and closer to their beneficiaries without due influence from external partners, especially major donors. Emergency stockpiling should be operationally driven but not only to serve the donor political and economic interests. Therefore donors need to review and moderate their powers.
- iv. All humanitarian agencies need to overcome the potential of conflicting goals, opportunism, differential tolerance for risk and unwillingness to contribute their fair share of the common task that occur in their network. Effective leadership and organizational strategy including information sharing will help participants in the supply chain network overcome the existing structural impediments noted in the Lebanon crisis.
- v. Humanitarian networks are shaped by varying political willingness by major donors, preferring to respond only during emergencies. The study thus recommends that donors be proactive and not reactive by funding emergency preparedness resources such as supply chain staff positions, training, including supporting organizations choices of storage locations. Donors should also encourage humanitarian agencies to procure locally in areas or regions of operation in order to help growing economies.

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Below questionnaire was used to collect data for the study. A face to face interview was carried out with seventy seven respondents using the tool.

Questionnaire for survey on UNHCR supply chain management

Operations name/Region:

Name of Employee & Title:

I. General Operational and functional information:

1. Under which one below is your supply function classified?

- Headquarters Regional Office Branch Office Field Office

2. In which section or service does your supply functional area report to?

Full-fledged supply section reporting to the Representative or Deputy Representative OR
Regional Supply officer

- Program section Finance/Admin Section Director of the division dual reporting

3. (a) How many supply staff do you have at professional level in your operation or service?

- (1) 1- 3 person (2) 3 -6 persons (3) 6 - 8 persons (4) Over 8 persons

(b) How many supply staff do you have at the General services/national (Assistant / clerical level) in your operation or service?

- (1) 1- 3 person (2) 3 -6 persons (3) 6 - 8 persons (4) Over 8 persons

(c) How would you rate the ratio of supply staff to other sections within your office?

- (1) 1: 2 person (2) 1: 3 person (3) 1: 4 persons (4) Over 1: 5 persons

4. How many refugee and IDP's do you cover in your operation?

- (1) 1- 50,000 persons (2) 50, 000 – 150,000 persons
 (3) 150,000 – 200,000 persons (4) Over 200,000 persons

Comments:

5. What is your reference guide in the supply function in terms of supply policy and procedures?

- (1) UNHCR Chapter 8 supply manual (2) UNHCR Chapter 4 program manual
 (3) Both (4) Others, please specify

II. Link between Supply Service (SMS) and Emergency Section (EPRS):

6. Do you work together always on contingency plans at pre-emergency phase (EPRS, SMS & Field office)?

(1) No or (2) Yes.

7. Have you seen improvement following the Supply & Emergency section merger in a one division (DOS)?

(1) No or (2) Yes.

8. Are you fully satisfied with UNHCR supply chain role and action in emergencies?

(1) No or (2) Yes.

III. Staffing profiles:

9. What is your year of experience in Supply Section: 1(<1=2 years), 2 (<2=3years), 3 (<3=4years), 4(>4 years)

10. Level of education:1-Secondary, 2 -Diploma, 3 university, 4 Masters & above

11. Do you have other qualifications that are supply/Logistics related? (1) NO Or (2) Yes

12. Year of service on the position: 1(<1=2 years), 2 (<2=3years), 3 (<3=4years), 4(>4 years)

IV. SMS & field co-ordination (International/Regional/Local sourcing capacity):

This part of the questionnaire only relates to how the supply management service – Headquarters co-ordinate the supply chain with Regional and field offices.

13. What percentage of your items do you estimate to be locally procured in comparison to what is procured or sourced through SMS international procurement and from emergency stockpiles?

14. (a) Do you have locally/Regionally established Frame Agreements and if yes, what items do you purchase using these agreements?

(b) If Frame agreements exist, what percentage of goods do you estimate to be procured using the arrangement?

(c) What kind of suppliers are they, Local or Regional?

15. What are the three major reasons why you established local/Regional agreements?

Please list in order of priority?

(a)

(b)

(c)

16. How would you rate your co-ordination and Link with SMS in your daily work including emergencies.

- (1) None existent (Poor) (2) Occasional co-ordination (Fair)
 (3) Frequently Co-ordinate (Good) (4) Always in co-ordination (Excellent)

(V) Timely Delivery of goods & services:

17. Do you think the UNHCR stockpiles in Copenhagen and Dubai are strategically placed to serve the needs of your operation?

(1) No or (2) Yes.

Comments:

18. How many days on average represent delivery delays for goods and services ordered through SMS if any according to your operation

(1) 1 -15 days (2) 15- 30 days (3) 30 – 45 days (4) Over 45 days

19. How would you rate the delivery service provided by SMS to your operation?

(1) Poor (2) Fair (3) Good (4) Excellent

(vi) Data management and reporting:

20. Do you use MSRP (Supply Chain software)? (1) No or (2) Yes.

21. In your view is the software useful for your operation and if yes in what aspects?

(1) No or (2) Yes.

22. Do all the supply staff use the software?. (1) No or (2) Yes.

23. Please tick below what transaction of the supply process in your operation is transacted through MSRP.

Purchasing Warehousing/Transport/Distribution Asset management Fleet Mgmt

VII. Supply chain structure & accountability mechanism:

24. Do you think accountability mechanism do exist in your field operation on supply chain activities? (1) No or (2) Yes.

25. Do you think the Supply management Service (SMS) in UNHCR has sufficient structure and authority to drive the entire processes from headquarters level to Field offices? (1) No or (2) Yes.

If the SMS structure and authority is insufficient what is your view?

26. Do you think you are involved sufficiently with SMS in on supply chain management accountability and to promote gradual change in the organization?

(1) Not at All (2) Somewhat Sufficient (3) Very Sufficient (4) Don't Know

27. Overall, how do you rate UNHCR supply chain management with other major humanitarian players?

(1) Poor (2) Fair (3) Good (4) Excellent

Nine key informants were identified during various forums, based on their knowledge and experience on the subject matter. Various face to face side meetings were organized with the key informants. Below are the seven forums and the key areas addressed in the semi structured interviews.

(1) Lebanon task force debriefing - 20th October 2006. Discussion focused on key informants views about the following gaps during the operation.

(i) Co-ordination

- (ii) Communication
 - (iii) Collaboration and
 - (iv) Competition among agencies
- (2) Shelter Cluster Co-ordination meeting of December 2006 and March 2007, Chaired by UNHCR in Geneva. The discussion addressed lessons learnt and key informants views on what needs to be done for future improvements in emergency interventions.
- (3) Fleet forum meeting 18th -20 September, 2007, Brindisi, Italy – The forum addressed synergies to be achieved through interagency collaborations in Fleet Management and joint approaches in transport assets management.
- (4) UNHCR Senior Supply Officers meeting in Budapest, Hungary 15th -17th September 2008. Issues addressed with the key informants among the UNHCR Senior Supply Officers gave an internal assessment on the main gaps and areas that needs prioritization in terms of resource allocation and improvements.
- (5) UNHCR Emergency Section weekly meetings and alert monitoring October – December 2006. The forum addressed how different the Lebanon operation was and what could be done in future in order to address volatile and unpredictable emergency situations.
- (6) Inter agency Logistics meetings Chaired by WFP in Geneva November 2008 Sessions. The focus was to capture the key informants' views on division of Labor and collaboration among humanitarian agencies.
- (7) UNHCR Supply Management weekly meetings and Discussions, December October 2007 – February 2008. This helped in addressing the UNHCR Supply Management initiated change management following all the shortfalls identified during the crises.